# **USS KLAKRING (FFG 42)**

# SHELL CONDITION ASSESSMENT SURVEY INTERIOR AREAS

3/26/01 - 4/6/01



PREPARED BY:

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#### Summary of Conditions Found Shell Condition Assessment Survey Interior Areas

A survey of all accessible interior spaces adjacent to the underwater hull was conducted using Hull Structure MRC 1102 and a DELMHORST model BD-2100 moisture meter. The survey was in conjunction with the SEMAT II visit from 3/26/01 - 4/6/01 at Mayport Naval Station.

The attached list reflects areas found to be historically prone to corrosion on FFG 7 class vessels and the conditions found on KLAKRING during this survey. Based on a review of the levels of corrosion cited on sister hulls, the KLAKRING is in average or better condition. The SEWAGE HANDLING & BOILER ROOM (4-160-0-Q) was the area found to be in the poorest condition. Approximately 33 linear feet of shell stiffener were found thinned or holed. The other machinery spaces had significant areas of surface corrosion, but minimal structural deterioration. In most of the machinery spaces, lagging at or below the bilge level and surrounding the various overboard connections was usually saturated and the shell and structure behind it was found corroded. A review of the specifications for shell insulation coverage requirements may reduce the amount of corrosion in these areas.

During the survey, the shipyard was power tool cleaning and painting the bilge areas in AUXILIARY MACHINERY ROOM Nos. 1 & 2. Shipsforce indicated that the MAIN MACHINERY ROOM bilge areas would also be cleaned and painted during this availability. The bilge areas of the EDUCTOR ROOM (5-51-0-Q) and AUXILIARY PROPULSION ROOM (4-100-0-E) had already been completed. In the APU Room, portions of the shell and forward bulkhead were being UT'd by the shipyard, due to conditions found during cleaning.

Many of the miscellaneous spaces showed no signs of corrosion at all. All insulated spaces surveyed were randomly checked with the moisture meter. Two spaces were found to have saturated insulation. Investigation revealed sources of the water and the areas were UT'd to ensure the corrosion was confined to the surface. 2K write-ups were developed for the leaks.

The Survey Results and Specific Areas of Corrosion sections provide additional details.

#### FFG-42 STRUCTURAL INSPECTION RESULTS

**LOCATION RESULTS** Fr 271 Port Transverse Weld Seam Shell Thinned MER (5-250-0-E) Fr 250 Port Bulkhead Under Adjacent Eductor Piping Shell Corroded, Lagging Saturated (2)Fr 258 - 264 Stbd Shell Corroded, Lagging Saturated (3)Berthing (3-100-0-L) (1) Tank Top FO 5-116-2-F Deck Preservation in Progress Stbd Shell Behind Sheathing None Noted (2)Deck Plating in way of X-Flooding Trunk Deck Preservation in Progress (3)APU (4-100-0-E) (1) Stbd Shell at Bilge Turn Bilge Preservation in Progress Overhead from Ops Berthing None Noted (2)A/C Mach (3-84-0-E) Port Outboard Near Ops Berthing Deck and Bhd Repairs in Progress (1) Deck and Bhd Repairs in Progress (2) Stbd Outboard Behind A/C Unit - Portside (3) Deck and Bhd Repairs in Progress Deck and Bhd Repairs in Progress (4) Under SFC's Aux. 3 (5-292-0-E) **Eductor Overboard** Shell Corroded (1) Fr 316 - 328 Portside Shell to Stringer Lagging Saturated (2)Under Nr 4 SSDG Cooling Pump Surface Corrosion (3) Aft Cooling Pump near Pot Wtr Tank 5-308-2 None Noted (4) Outboard Shell near Pot Wtr Tank 5-308-2 None Noted (5) Bulkhead Between Aux. 3 and MER None Noted (6)Pot Wtr Tank Top 5-308-2 Under Vacuum Priming Pump None Noted (7) Pot Wtr Tank Top 5-292-1 None Noted (8) Longitudinal Under Nr 4 SSDG Enclosure None Noted (9) (10) Under Oily Waste Tank Over Skeg None Noted Fire Pump (4-172-1-E) Bulkhead Between CHT & FP Room WI to Clean Bilge Area, CHT Side Pump Foundation (2)**CPO Berthing** Under FCU Repair in Progress (1) Aux. 2 (5-212-0-E) Behind Nr 1 HPAC 2-K Submitted (1) Port Fwd Bulkhead into CHT at Bilge Aux. 1 (5-180-0-E) (1) Not Assessed CHT (4-160-0-Q) Port Outboard Near OWS 2-K Submitted (1) (2) Behind Pump None Noted (3)At Margin Plate 2-K Submitted Stbd Side Bulkhead Frame 172 2-K Submitted (4) Outboard Bilge Pocket Port & Stbd Frame 164 (5) 2-K Submitted Discharge Pump Foundation None Noted (6)Stringers Under CHT Tank Tank Inspection (7)FWD Bulkhead None Noted (8)Pot Wtr Tank (5-308-2-W) Inboard Lower Bilge 16" From JOB None Noted (1) Pot Wtr Tank (5-292-2-W) Inboard Lower Bilge 16" From Bilge None Noted Pot Wtr Tank (5-292-1-W) Outboard Margin Plate None Noted (1) Inboard Bulkhead None Noted Bulwark - Longitudinal & Vertical Stringers Not Shell Related Foc'stle (1) Pit Sword (1) Fathometer Bilge Area Cleaned and Painted

#### FFG-42 STRUCTURAL INSPECTION RESULTS

LOCATION		AREA	RESULTS
Fan Room (1-200-2-Q)	(1)	Intake From Weather	Not Shell Related
Scullery (2-203-2-Q)	(1)	FO Tank Top 5-204-2-F	Not Shell Related
Laundry (4-140-1-Q)	(1)	FO Tank Top 5-140-0-F and 5-164-2-F	Not Shell Related
Sonar Clg Rm (4-48-1-Q)	(1)	Cooler Foundation	Repairs in Progress
Gen. Workshop (2-292-2-Q)	(1)	Under FCU	Not Shell Related

	SPACE	LAGGING INSTALLED		HISTORICAL			SAT/UNSA
SPACE NUMBER	ASSESSABLE	ON BHD	SEMATI	HOT SPOT	COMMENTS	2K	T
3RD DECK							
3-20-0-Q	N	N	Y		CHAIN LOCKER	N	
					ACCESSIBLE HIDDEN		
					LAGGED 100% (100% OF		
3-32-2-A	Υ	Y	N		SHELL ASSESSABLE)	N	SAT
					ACCESSIBLE HIDDEN		
					LAGGED 100% (100% OF		
3-32-1-K	Υ	Y	N		SHELL ASSESSABLE)	N	SAT
					ACCESSIBLE HIDDEN		
					LAGGED 100% (100% OF		
3-36-2-T	Υ	Y	N		SHELL ASSESSABLE)	N	SAT
3-40-2-A	Υ	ANTI-SWEAT COATING	N		100% ASSESSABLE	N	SAT
3-46-1-A	Y	ANTI-SWEAT COATING	N		100% ASSESSABLE. SMALL DENT IN SHELL, FR 56, 2' ABV THE DECK	N	SAT
3-48-2-A	Υ	ANTI-SWEAT COATING	N		100% ASSESSABLE	N	SAT
3-53-2-A	 Y	ANTI-SWEAT COATING	N		100% ASSESSABLE	N	SAT
3-36-1-A	Y	ANTI-SWEAT COATING	N		100% ASSESSABLE	N	SAT
3-56-0-A	Y	ANTI-SWEAT COATING	N		100% ASSESSABLE	N	SAT
3-64-2-V	Ү	N	Y		OPEN FOR INSPECTION	N	SAT
3-64-1-V	Ү	N N	Y		OPEN FOR INSPECTION	N	SAT
		LAGGING WAS REMOVED FROM LOWER AREAS OF THE SHELL FOR DECK AND		FRS 94-100 STBD SIDE SHELL, DECK TO OVERHEAD, FR 95 PORTSIDE AT	SFC'S AND A/C UNITS WERE REMOVED FOR DECK REPAIRS. SOME CORROSION WAS NOTED AT THE THIRD DECK LINE, BUT WILL BE CLEANED AND PRESERVED AS PART OF DECK REPAIRS		
3-84-0-E	Y	AFT BHD REPAIRS	N	TANKTOP.	LAGGING 100% AND SS 50% (SS INSTALLED 49"	N	SAT*
3-100-1-L	Υ	Υ	N		OFF DECK, FRAMES 100 TO 113)	N	SAT

	SPACE	LAGGING INSTALLED	INSPECTED DURING	HISTORICAL			SAT/UNSA
SPACE NUMBER	ASSESSABLE	ON BHD	SEMAT I	HOT SPOT	COMMENTS	2K	Т
				FRS 113-	LAGGING 100% AND SS		
				124,STBD SIDE	50% (SS INSTALLED 49"		
				OF SHELL, DECK	OFF DECK, FRAMES 113		
3-113-0-L	Υ	Υ	N	TO OVERHEAD	TO 123)	N	SAT
					LAGGING 100% AND SS		
					50% (SS INSTALLED 49"		
					OFF DECK, FRAMES 140		
3-140-2-L	Υ	Υ	N		TO 155)	N	SAT
3-140-1-A	Υ	Y	N		LAGGING 100%	N	SAT
3-144-0-L	Y	Y	N		ACCESSIBLE HIDDEN LAGGED 100% INSPECTORS CLIMBED OVER OUTFITTINGS TO ACCESS SHELL. SOME SURFACE CORROSION WAS NOTED. SHIPSFORCE INDICATED SHIPYARD WAS TO CLEAN AND PRESERVE.	N	SAT
					ACCESSIBLE HIDDEN LAGGED 100% (100% OF		
3-156-2-Q	Υ	Y	N		SHELL ASSESSABLE)	N	SAT
					ACCESSIBLE HIDDEN		
					LAGGED 100% (100% OF		
3-154-1-Q	Υ	Υ	N		SHELL ASSESSABLE)	N	SAT
·					ACCESSIBLE HIDDEN		
					LAGGED 100% (100% OF		
3-180-2-C	Υ	Y	N		SHELL ASSESSABLE)	N	SAT

	SPACE	LAGGING INSTALLED	INSPECTED DURING	HISTORICAL			SAT/UNSA
SPACE NUMBER	ASSESSABLE	ON BHD	SEMAT I	HOT SPOT	COMMENTS	2K	Т
		LAGGING WAS OPENED			SEE SPECIFICS SECTION. GRAY WATER DRAIN LINE LEAK DISCOVERED BY MOISTURE CHECK. INVESTIGATION REVEALED SURFACE CORROSION ON THE SHELL AND STIFFENERS BEHIND THE LAGGING IN WAY OF THE LEAK. UT	2K SUB. FOR CORR. AND LEAK	
3-180-5-A	Υ	TO EXPOSE CORROSION	N		ACCOMPLISHED 4/4. SAT.	REPAIR	UNSAT
3-196-2-A	Y	ANTI-SWEAT COATING	N		SPACE WAS EMPTY. 100% ASSESSABLE	N	SAT
		LACCING WAS OPENED			SEE SPECIFICS SECTION. DECK DRAIN LINE LEAK DISCOVERED BY MOISTURE CHECK. INVESTIGATION REVEALED SURFACE CORROSION ON THE SHELL AND STIFFENERS BEHIND THE LAGGING FROM FR 330 TO 367. UT ACCOMPLISHED 4/4. SAT.SHIPYARD TO	2K SUB. FOR CORR. AND	
2 222 2 4	V	LAGGING WAS OPENED	NI .		REMOVE LAGGING AND	LEAK	LINGAT
3-328-0-A	Υ	TO EXPOSE CORROSION	N		CLEAN AND PRESERVE.	REPAIR	UNSAT

	SPACE	LAGGING INSTALLED		HISTORICAL			SAT/UNS
SPACE NUMBER	ASSESSABLE	ON BHD	SEMAT I	HOT SPOT	COMMENTS	2K	AT
4TH DECK							
4-32-0-Q	Υ		N			N	SAT
					ACCESSIBLE HIDDEN		
	.,	.,			LAGGED 100% (100% OF		0.4
4-48-2-L	Υ	Y	N		SHELL ASSESSABLE)	N	SAT
					REPAIRS INCLUDE		
					REPLACING 12' OF		
					STRINGER. *THE SHELL		
				FRS 49-55	WILL BE CLEANED AND		
					PRESERVED WHEN		
		LAGGING REMOVED			REPAIRS ARE		
4-48-1-Q	Y	FOR REPAIRS	N	OFF DECK	COMPLETE	N	SAT
4-40-1-Q	<u> </u>	FOR REPAIRS	IN	OFF DECK	COMPLETE	IN .	JAI
1					ACCESSIBLE HIDDEN		
					LAGGED 100% (100% OF		
4-56-2-A	Y	Y	N		SHELL ASSESSABLE)	N	SAT
4-56-0-M	Y	ANTI-SWEAT COATING	N		100% ASSESSABLE	N	SAT
4-64-0-Q	Y	ANTI-SWEAT COATING	N		100% ASSESSABLE	N	SAT
4-100-0-E	Y	Y	N	FRS 100-101 STBD SIDE OF SHELL, 6" BELOW GRATING	SEE SPECIFIC SECTION. COMPLETE CLEANING AND PRESERVATION OF BILGES IN PROGRESS. SOME PITS AND DETERIORATION NOTED IN THE SHELL. SHIPYARD WAS UTING HOLED AREA IN FWD BHD, STBD SIDE AT THE MARGIN PLATE	N	SAT
				TANK TOP FOR	STAINLESS STEEL 100%		
				5-140 & 5-164-2			
4-140-0-Q	Υ	Υ	N	F	SHELL ASSESSABLE)	N	SAT
					ACCESSIBLE HIDDEN LAGGED 100% (100% OF		
4-140-3-A	Υ	N	N		SHELL ASSESSABLE)	N	SAT
4-151-3-A	Υ	N	N		100% ASSESSABLE	N	SAT

SPACE NUMBER	SPACE ASSESSABLE	LAGGING INSTALLED ON BHD	INSPECTED DURING SEMAT I	HISTORICAL HOT SPOT	COMMENTS	2K	SAT/UNS AT
4-152-1-A	Υ	N	N		ACCESSIBLE HIDDEN LAGGED 100% (100% OF SHELL ASSESSABLE)	N	SAT
					SEE SPECIFICS SECTION. STIFFENERS AND SHELL		
4-160-O-Q	Y	N	N		_	Υ	UNSAT
				FRS 174-180 STBD SIDE OF SHELL, 6" BELOW GRATING			
4-172-1-E	Υ	N	N	BETWEEN L7- L9	100% OF STBD SHELL ASSESSABLE	N	SAT

#### FFG 42 INTERIOR HULL STRUCTURAL ASSESSMENT MATRIX

	I		1				
	SPACE	LAGGING INSTALLED	INSPECTED DURING	HISTORICAL			SAT/UNS
SPACE NUMBER	ASSESSABLE	ON BHD	SEMATI	HOT SPOT	COMMENTS	2K	AT
IST/2ND PLAT							
					4000/ OF DODT 9 CTDD		
					100% OF PORT & STBD SHELL ASSESSABLE.		
					SHIPYARD CLEANED		
					AND PAINTED BILGE		
5-51-0-Q	Υ	N	N		AREA	N	SAT
70.04		.,	.,		SPACE REQUIRES GAS		0,11
5-137-1-T	Υ	N	Υ		FREE	N	SAT
				FRAME			
	NO. SHIPYARD			180,PORT			
	CLEANING AND			SIDE, 15'-0"			
	PRESERVING	.,		OFF CL, 8' SQ			
5-180-0-E	BILGE AREA	Y	N	FT			
	NO. SHIPYARD						
	CLEANING AND						
F 400 04 F	PRESERVING	Υ	M				
5-180-01-E	BILGE AREA	Y	N				
				FRS 215-220	SEE SPECIFIC SECTION.		
				PORT SIDE OF			
				SHELL, U/L	STIFFENERS AND		
5 040 0 5 (III.)				BETWEEN L13-		v	
5-212-0-E (UL)	Y	Y	N	L14	SATURATED LAGGING	Y	UNSAT
					OTIFEENEDO DOS 7 / 2		
					STIFFENERS P9&P10		
					FOUND THINNED AND POSSIBLY		
					HOLED.SHIPYARD		
					CLEANING AND		
					PRESERVING BILGE		
5-212-0-E (LL)	Υ	PARTIAL	N		AREAS	Υ	UNSAT
\/			1 **	I	, <b></b> , to	•	J. 107 11

#### FFG 42 INTERIOR HULL STRUCTURAL ASSESSMENT MATRIX

SPACE NUMBER	SPACE ASSESSABLE	LAGGING INSTALLED ON BHD	INSPECTED DURING SEMAT I	HISTORICAL HOT SPOT	COMMENTS	2K	SAT/UNS AT
5-226-2-E	Y	N	N		ACCESS COVERS WERE OPEN. BILGE AREAS WERE HEAVILY SATURATED WITH OIL. THE WERE SOME AREAS OF PAINT FAILURE, BUT THE OIL WAS PREVENTING CORROSION	N	SAT*
5-226-1-E	Y	N	N		ACCESS COVERS WERE OPEN. BILGE AREAS WERE HEAVILY SATURATED WITH OIL. THE WERE SOME AREAS OF PAINT FAILURE, BUT THE OIL WAS PREVENTING CORROSION	N	SAT*
5-250-0-E	Y	Y	N	FR 271-272 PORT SIDE OF SHELL,TOP OF LO TK TOP, FR 250 PORT SIDE OF SHELL BETWEEN P9 AND P12, FR 258-264 STBD SIDE OF SHELL BETWEEN S9 AND S12	SOME SHELL THINNING IN WAY OF TRANSV. WELD SEAM AT FR 271	Y	UNSAT

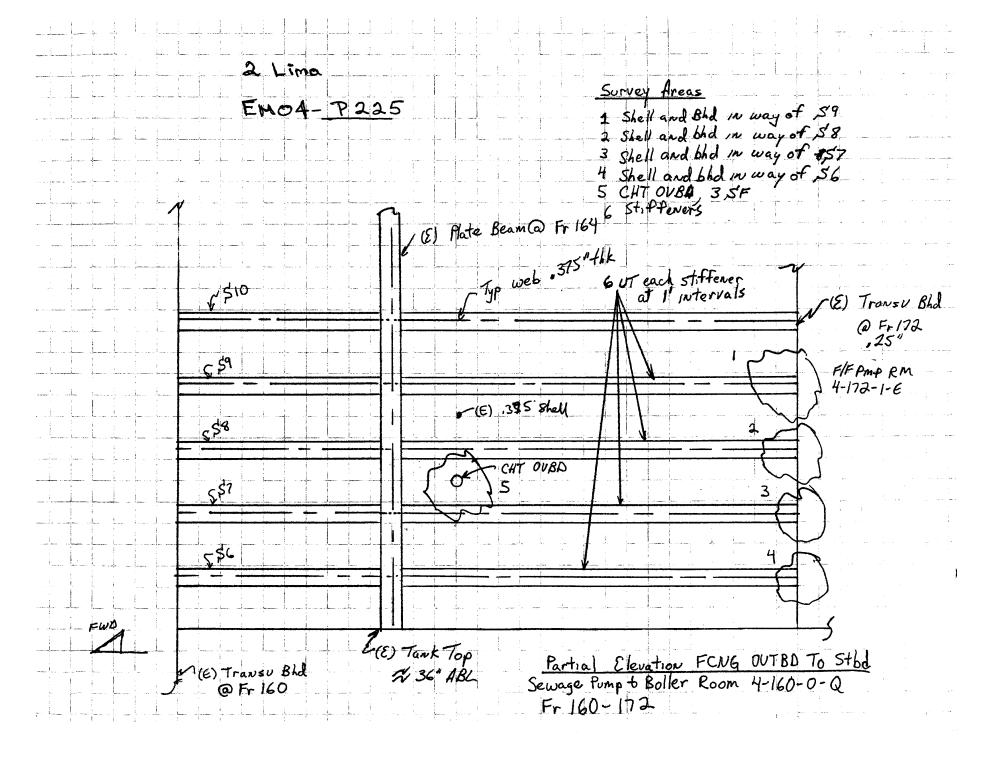
#### FFG 42 INTERIOR HULL STRUCTURAL ASSESSMENT MATRIX

SPACE NUMBER	SPACE ASSESSABLE	LAGGING INSTALLED ON BHD	INSPECTED DURING SEMAT I	HISTORICAL HOT SPOT	COMMENTS	2K	SAT/UNS AT
				FR 316-328 PORT SIDE OF SHELL, BETWEEN L5- L9, FR 292-328 PORT SIDE OF SHELL, BETWEEN P1	SCALING. SHIPSFORCE INDICATED BILGE AREA HAD BEEN PAINTED		
5-292-0-E	Y	Y	N	AND P3	PAINTING IT NOW.  ACCESSIBLE HIDDEN	N	SAT*
5-368-01-E	Y	Υ	N		LAGGED 100% (100% OF SHELL ASSESSABLE)	N	SAT
5-376-1-A	Y	Y	N		ACCESSIBLE HIDDEN LAGGED 100% (100% OF SHELL ASSESSABLE)	N	SAT
5-390-1-A	Y	Y	N		ACCESSIBLE HIDDEN LAGGED 100% (100% OF SHELL ASSESSABLE)	N	SAT

# SHELL CONDITION ASSESSMENT SURVEY SEWAGE HANDLING & BOILER ROOM (4-160-0-E)

- 1. 2K's submitted:
  - a. EM04-P225 Shell and structure UT.
  - b. EM04-xxxx Stiffener replacement.
  - c. EM04-xxxx Bilge cleaning and preservation
- 2. Random UT's of corroded stiffeners and shell port and stbd, Fr 160-180, indicates corrosion is surface deterioration except as noted in the 2K's and UT readings.

ITEM NUMBER							42				
SYSTEM		ESV	VBS	1	EIC	A	USS K	RIC			
	LL STRUCTURE 11021 A301 N/A										
EQUIPMENT NAME		NUCTURE		/SERIA	L					JSN	
SHELL&SUPP			N/A			4-10	60-0-Q	EM	U4 		
EQUIPMENT STATUS		PROBLEM S	TATUS		CATEGORY					E	oc 
1. SAT - SATISFACT 2. UNSAT - UNSATISFA 3. TNA - TEST NOT / 4. TNC - TEST NOT / 5. NOB - EQUIPMEN	CTORY ATTEMPTED	1. C - CORRECT 2. A - AWAITING 3. T - AWAITING 4. S - SHIPS FOF *UNCORRECTED	PARTS TECH ASSIST* RCE*		<ol> <li>S – PERSO</li> <li>Z – EQUIPM</li> <li>H – HARDW</li> </ol>	MENT SAF		DOWN*	3		.9
TYPE AVAILABILITY	WHEN TO BE ACC		STATUS	S	CAUSE DEFERRAL REA  1. SF BACKLOG/OPER					ITY	
1. DEPOT 2. IMA 3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 2  MAN HRS EXPEN	1. IMMEDIATELY 2. PRIOR TO NEXT UNDERWAY 3. PRIOR TO NEXT DEPLOYMENT 4. DURING POST DEPLOYMENT AVAILABILITY 30MAR02 4. NOT APPLICABLE 1. ADROCADE AT THE MAN OF AND THE ARCH TO NEXT DEPLOYMENT AVAILABILITY 30MAR02 4. NOT APPLICABLE 1. OPERATIONAL 2. NON-OPERATIONAL 3. REDUCED CAPABILITY 4. NOT APPLICABLE 4. NOT APPLICABLE 7  EXPENDED MAN HRS REMAINING COMPLETED ACTION TAKEN 2. MANORMENT 2. MANORMENT 3. NO FORMAL 4. FORMAL WA 3. NO FORMAL 4. FORMAL WA 3. NO FORMAL 4. FORMAL WA 3. NO FORMAL 4. NOT APPLICABLE 7  EXPENDED MAN HRS REMAINING COMPLETED ACTION TAKEN S/F MAI					ERIAL  FRAINING ON THIS EQUINING INADEQUATE THE SCHOOL PRACTICAL  ILITIES/CAPABILITIES  IZED FO S/F ACCOMPLE  RHAUL OR AVAILABILIT	IAL  ININIG ON THIS EQUIPMENT  NO INADEQUATE THIS EQUIPMENT  HOOLO PRACTICAL TRAINING  IESICARABILITIES  D FO SFA ACCOMPLISHMENT  AUL OR AVAILABILITY WORK LIST  ICAL DOCUMENTATION  NOT APPLICABLE				
SERIOUS – SUSPENSIOI     SERIOUS – WAIVER OF I     SAFETY ITEM – MINOR     COMBUSTIBLE MATERIA	0001  SAFETY HAZARD  SERIOUS - CORRECT AS SOON AS POSSIBLE SERIOUS - SUSPENSION OF EQUIPMENT/SYSTEM/SPACE REQUIRED SERIOUS - WAIVER OF EQUIPMENT/SYSTEM SAFETY ITEM - MINOR				ITENANCE ACTION CO ITENANCE ACTION CO CELLED – DEFERRAL ITENANCE ACTION CO E OF THE ABOVE, DES	OMPLETED OMPLETED WILL BE R OMPLETED SCRIBE IN	D: PARTS DRAWN FRO D: PARTS NOT DRAWN D: NO PARTS REQUIRE EMOVED FROM CSMF D: 2-M CAPABILITY UT REMARKS/DESCRIPT	I FROM SUPI ED ILIZED ION SECTION	PLY N	4. DESIRAE	DESIRABLE BLE
DISCREPANCY DE SO	NSPECTI	ON C	OF SEWAG	E HA	NDLING & E	BOILE	R ROOM	(4-160 <sub>'</sub>	-0-Q),		
THE 2 <sup>ND</sup> THRU	J 5 <sup>TH</sup> STIFFE	NERS(S6-	S9) FROI	м тн	E DECK, S	TBDS	SIDE, FR 16	0-172 \	WERE FO	UND	
CORRODED.	APPROX. 3 S	F OF THE	SHELL(.	375	HY80) IN W	AY O	F THE CHT	OVBD	, FR 167		
AND APPROX	5 SF OF THI	E F/FPMP	ROOM (4	-172	-1-E),FWD I	BHD	IN WAY OF	LONG	STIFFEN	IERS /	ARE
CORRODED.	THE 4 <sup>TH</sup> STIF	FENER FF	ROM THE	DEC	CK (P8), PO	RTSI	DE FR 160-	168 IS	CORRO	ED.	
RECOMMENDED REF	PAIRS										
REMOVE CO		ID ACCOM	IPLISH U	IT SI	IRVEY OF A	\RF4	S ON SKET	CH PI	ROVIDED	TO TH	4F
CHIEF ENGINI											<u>-</u>
SSPORT C221	POC: J. BRU	CKNER (75	7) 396-400	1, T	POC: D. SM	ITH /F	IUGHES, CD	I			
CSMP SUMMARY	EWAGE HAND	I ING& BO	I FR ROO	M(4-1	160-0-Q) STIE	FFNE	ERS CORRO	DED	TEST #	MRC 1	102/1
ROOT CAUSE/AMPLII		LINGA BO	LLIN NOO	(	100 0 Q <sub>1</sub> 0111	141			STEP #	1.a	
SYSTEM LEVEL IMPA	СТ										
PART NO.		NOMEN	CLATURE		QTY		NSN				COST
FIDOT CONT.		T ==	'		DON'S CONTROL		BARR   -				
FIRST CONTACT  DA	NZING		T2		COND CONTACT SSELRING		DC1	HONE			
BLUEPRINTS, TECH I	MANUALS, PLANS,	ETC.	•				•				BOARD ES NO



ITEM NUMBER	N NUMBER USS KLAKRING FFG 42									
SYSTEM		ESW	VBS	EIC	APL	000 K	LAMMIN	,,,,,,	RIC	
HULL STRUCTUR	E		11021	A301	N/A	١.				
EQUIPMENT NAME		I	IDENT/SEI	RIAL	LOCATI	ON	WORK CI	ENTER	JSN	
SHELL&SUPPORT	ING STR	UCTURE	N/A		4-160	-0-Q	EM04			
EQUIPMENT STATUS		PROBLEM ST	TATUS	CATEGOR	RY		•		EOC	;
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMP 4. TNC - TEST NOT COMPLE 5. NOB - EQUIPMENT NOT O	TED	1. C - CORRECTE 2. A - AWAITING 3. T - AWAITING 4. S - SHIPS FOR *UNCORRECTED	PARTS TECH ASSIST* :CE*	2. Z-	PERSONNEL SAFETY EQUIPMENT SAFETY HARDWARE		DOWN*	3		.5
	N TO BE ACC		STATUS	4 40000	CAUSE	1.	S/F BACKLOG/OPER		Y	
2. IMA 3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 2. PRI 3. PRI 4. DUI	MEDIATELY  FOR TO NEXT UNDERLY  FOR TO NEXT DEPLOY  RING POST DEPLOYM  AILABILITY   MARO2	WAY 2	DEPARTIONAL NON-OPERATIONAL REDUCED CAPABILITY NOT APPLICABLE	2. MANUFA 3. LACK OF 4. COMMU 5. INADEQI 6. INADEQI	IAL ENVIROMENT CTURER/INSTALLATION I KNOWLEDGE OR SKILL IICATION PROBLEMS JATE INSTRUCTION/PRO JATE DESIGN WEAR AND TEAR LICABLE	DEFECTS 3.	FORMAL TRAINING I INADEQUATE SCHO LACK OF FACILITIES	NADEQUATE THIS OL PRACTICAL TR CAPABILITIES O S/F ACCOMPLIS OR AVAILABILITY L DOCUMENTATIC	S EQUIPMENT RAINING SHMENT WORK LIST	
MAN HRS EXPENDED  0001	M.	AN HRS REMAI	NING	COMPLETE	D ACTION TAK	EN	S/F MANHO	JRS	PRIO	RITY
SAF  1. SERIOUS – CORRECT AS SOON 2. SERIOUS – SUSPENSION OF EQ 3. SERIOUS – WAIVER OF EQUIPMI 4. SAFETY ITEM – MINOR 5. COMBUSTIBLE MATERIAL	D WSPACE REQUIRED	2. M 3. M 4. C 5. M 6. M	MAINTENANCE ACT MAINTENANCE ACT CANCELLED – DEFI MAINTENANCE ACT NONE OF THE ABO	ION COMPLETED: P. ION COMPLETED: P. ION COMPLETED: N: RRAL WILL BE REM ION COMPLETED: 2. /E, DESCRIBE IN RE	ARTS NOT DRAWN O PARTS REQUIRE OVED FROM CSMI -M CAPABILITY UT MARKS/DESCRIPT	I FROM SUPPLY ED CONTROL CONTR	2. 3. 4.	. MANDATOR . ESSENTIAL . HIGHLY DE . DESIRABLE	ESIRABLE 3	
DISCREPANCY DE SCRIPTIO	on: PER S	SEMATIIN	ISPECTION	OF SEW	AGE HAND	DLING & E	BOILER R	OOM (4	4-160-0	-Q),
STIFFENER S7(7"	X6 ¾"T)	FROM FR	160-172, S	8 & S9(6"	K 6 ½"T ) F	ROM FR	164- 172	AND P7	7(7"X6 <sup>:</sup>	³⁄₄"T)
FROM FR 170-175	WERE F	OUND CO	RRODED A	ND HOLE	D. UT REA	DINGS 4	/4/01 INDI	CATE S	STIFFE	NERS
ARE BELOW MINI	мим то	LERANCE	S.							
RECOMMENDED REPAIRS										
CROP OUT AND F	REPLACE	<b>APPROX</b>	IMATELY 1	17 LF OF (	7"X 6 ¾" T	) AND AF	PROX 16	LF OF	(6"X 6	½" T)
AS INDICATED AB									•	
SURFACES.										
SSPORT C221 POC	: J. BRUC	KNER (757	') <b>396-4001</b> ,	TPOC: D.	SMITH /HU	GHES, CD	I			
CSMP SUMMARY	CE HAND	LINGS DOI	LED DOOM	4.460.0.0)	OTICCUIC	c coppo	DED 7	TEST # N	MRC 110	2/1
ROOT CAUSE/AMPLIFICATI	114	LING& BOII	LER ROOM(	4-16U-U-Q)	SHFFENER	S CURRU		EP #	1.a	
SYSTEM LEVEL IMPACT										
PART NO.		NOMENO	CLATURE	QTY		NSN			CC	OST
FIRST CONTACT  DANZIN		SECOND CONT		RATE P	HONE					
BLUEPRINTS, TECH MANUA			14   1	NEGGELK	1140	וטטו			ON BO	
ASSESSOR / ACT / TECH ID:	# SPOR1	Γ 221/ D. S	MITH/ HUG	HES, CDI		TD	TL	LOGIST	TCIAN	S NO

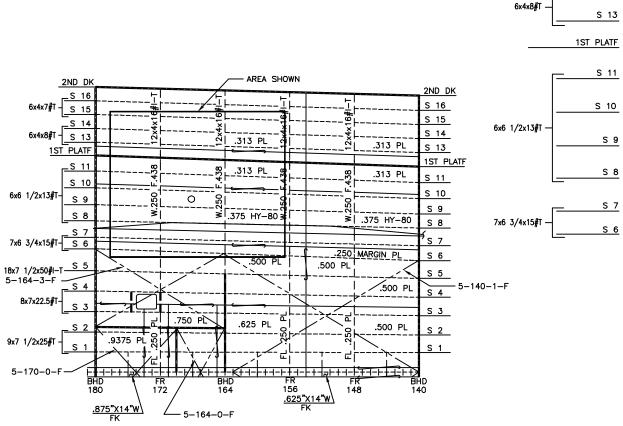
ITEM NUMBER						SHIP	(I AKRING	EFG A	2		
SYSTEM	SYSTEM ESWBS EIC APL							,,,,,,	RIC		
HULL STRUCTUR	E		11021	A301	N/A						
EQUIPMENT NAME			IDENT/SEI	RIAL	LOCATION	ON	WORK C	ENTER	JSN		
SHELL&SUPPORT	TING STR	UCTURE	N/A		4-160	-0-Q	EM04				
EQUIPMENT STATUS		PROBLEM ST	ATUS	CATEGO	RY				EOC		
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMP 4. TNC - TEST NOT COMPLE 5. NOB - EQUIPMENT NOT O	TED	1. C - CORRECTE 2. A - AWAITING F 3. T - AWAITING T 4. S - SHIPS FOR *UNCORRECTED	PARTS ECH ASSIST* CE*	2. Z-	PERSONNEL SAFETY EQUIPMENT SAFETY HARDWARE		- DOWN* LIMITED	3	.9		
	N TO BE ACC		STATUS		CAUSE	1	DEFERRAL REA  1. S/F BACKLOG/OPER 2. LACK OF MATERIAL	ATIONAL PRIORIT	Y		
2. IMA 3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 2 PR 3. PR 4. DU AV. 12	MEDIATELY  IOR TO NEXT UNDER!  IOR TO NEXT DEPLOY  RING POST DEPLOYMALLABILITY  PEB02	NAY 2.	OPERATIONAL NON-OPERATIONAL REDUCED CAPABILITY NOT APPLICABLE	2. MANUF/ 3. LACK O 4. COMMU 5. INADEQ 6. INADEQ	UATE DESIGN L WEAR AND TEAR	LEDGE OR SKILL  N PROBLEMS  ISTRUCTION/PROCEDURE  ESIGN  AND TEAR  FORMAL TRAINING INADEGUA'S  INADEGUATE SCHOOL PRACT  LACK OF FACILITIES/CAPABILE  TO NOT AUTHORIZED FO SIF ACC  8. FOR SIF OVERHAUL OR AVAILE			DUATE THIS EQUIPMENT ACTICAL TRAINING BILITIES ACCOMPLISHMENT (AILABILITY WORK LIST UMENTATION		
MAN HRS EXPENDED  0001	М	AN HRS REMAII	NING	COMPLETI	ED ACTION TAK	EN	S/F MANHO	URS	PRIORITY		
SAI  SERIOUS – CORRECT AS SOON SERIOUS – SUSPENSION OF EC SERIOUS – WAIVER OF EQUIPM ASAFETY ITEM – MINOR COMBUSTIBLE MATERIAL	UIPMENT/SYSTEI ENT/SYSTEM	D WSPACE REQUIRED	2. M 3. M 4. C 5. M 6. M	MAINTENANCE AC' MAINTENANCE AC' CANCELLED – DEF MAINTENANCE AC' NONE OF THE ABO	TION COMPLETED: P, TION COMPLETED: P, TION COMPLETED: N ERRAL WILL BE REM TION COMPLETED: 2- VE, DESCRIBE IN RE	ARTS NOT DRAWN D PARTS REQUIR DVED FROM CSM M CAPABILITY UT MARKS/DESCRIPT	N FROM SUPPLY ED IP TILIZED TION SECTION	2 3 4	. MANDATORY . ESSENTIAL . HIGHLY DESIRABLE . DESIRABLE	)	
DISCREPANCY DE SCRIPTI	ON: PER S	SEMAT I IN	SPECTION	OF SEW	AGE HAND	LING & I	BOILER F	ROOM (4	4-160-0-Q),		
THE BILGE AREA	FROM T	HE TANK	OP TO LO	WER SID	EOF THE 1	ST STIFFE	ENER AB	OVE TH	IE TANKTOF	<u> </u>	
FROM FR 143 –172	2, PORT	AND STBD	SIDE, INC	LUDING	THE SHELL	., WAS F	OUND CC	RRODE	ĒD.		
RECOMMENDED REPAIRS											
REMOVE CORRO	SION AN	D PRESER	RVE APPRO	OXIMATE	Y 180 SF	OF BILGE	E AREA.				
SUPERCEDES AN	D CANCI	ELS EM01-	2896.								
001 211022207111											
SSPORT C221 POC	: J. BRUC	KNER (757	) 396-4001,	TPOC: D.	SMITH /HU	GHES, CD	)I				
CSMP SUMMARY							1	TEST # N	MRC 1102/1		
SEWA ROOT CAUSE/AMPLIFICATI	114	LING& BOIL	ER ROOM(	4-160-0-Q)	BILGES CO	RRODED	ST	EP #	1.a		
SYSTEM LEVEL IMPACT	ON III						0.	-, ,,	- Tiu		
									0007		
PART NO.		NOMENC	LATURE	QTY		NSN			COST		
FIRST CONTACT		RA		SECOND CON			PHONE				
DANZII BLUEPRINTS, TECH MANU		<b>H</b> ] ETC.	2	KESSELR	ING	DC1			ON BOARD		
·			MITLIVIUS	HEC OF		TD	TL	LOGIST	YES	NO	
ASSESSOR / ACT / TECH ID	# SPUKI	221/ D. S	WILLIA/ HOG	ロロこう, しり		1 .2		_0001	101		

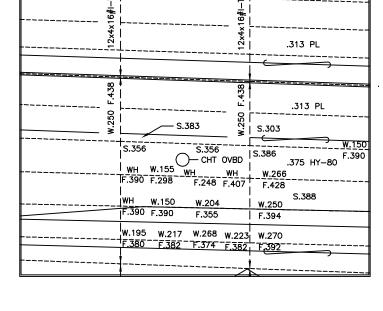
S.374 = SHELL READING W.150 = WEB READING F.390 = FLANGE READING H = HOLED

6x4x7#T —

S 15

S 14





FFG 42 UT SURVEY 4/4/01. STBD SIDE SEWAGE HANDLING & BOILER ROOM (4-160-0-Q)

S.374 = SHELL READING W.150 = WEB READING F.390 = FLANGE READING H = HOLED

6x4x7#T

6x4x8#T

S 15

S 14

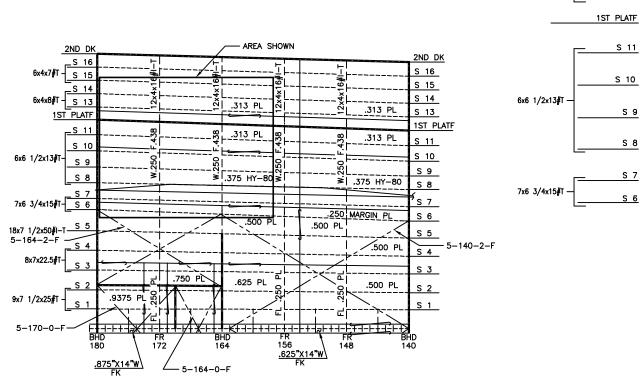
S 13

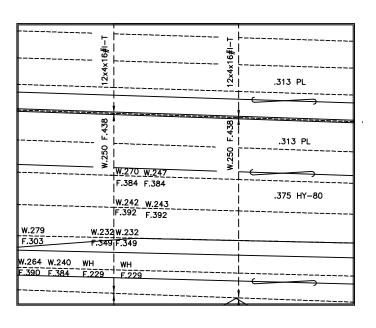
5 9

S 8

<u>S 7</u>

<u> 5 6</u>





FFG 42 UT SURVEY 4/4/01. PORT SIDE SEWAGE HANDLING & BOILER ROOM (4-160-0-Q)

FRI	8/			FR 172			N.	FR 164				POR	er,
				Mater NG Materials (Miles (Mercentages / Ares conseen	w 270	F.384 W.247 F.392		The state of the s	10	¥	17 Per	sig iv	M/W 1385 ,270
	F 303		<del>(                                    </del>	F ,349	0 242 1349	w.243	Angelen and Angelen An	MARIE CONSTRUCTION OF THE STATE	9		W S	1270	,383 ,138
	F 391 6391	F 334 WJ40	12 385 W HOL®	W 1232 W HOLE	F1229				7		#10 W		
					IN PLA	se		tina i tilani-tina kalendra ili kalendra kalendra kalendra kalendra kalendra kalendra kalendra kalendra kalend		PLA	aTe,	375 .	min ,338
					CHT	Pum	P RM						
													$\rightarrow$
						m	ARGIN	PLAT	•		_		
				7	1195		F ,374	F.382 W.223	W 1.02	F,392 W1270	i-Riko		
			·	8	HOLE	F 390 W 150	f.355 U 1204	reactivative engages or the constant and	1374 1388	F- 1394 W 1250			
				9	Hole In str 356	F 21 U 155	HOLE HOLES	F407 W186	1386	F.428 W.266			
				/0	138	OVB,		(,	,303	F 398 W 238			
					-						Angelon and Angelo	STL	sd
				ŀ				·	•				A Pack.

USS KLAKRING FFG 42

FILAROCK/TLAROCK
GED SYSTEMS INC
4/3/01



Heavy corrosion around CHT overboard, stbd shell, FR 166. Shell is thinned but is still over 75% of original thickness.



Additional view of overboard area.

FFG-42 Sewage Handling & Boiler Room 4-160-1-Q



View of the stbd shell Fr 164-172. Fresh anti-sweat coating masks heavy scaling of shell and stiffeners.



Corrosion at Fr 172, stbd, bhd to F/F PUMP ROOM. Bhd is thin, but not holed after needle gunning  $\,$ 

# SHELL CONDITION ASSESSMENT SURVEY DRY PROVISIONS STOREROOM

(3-180-5-A)

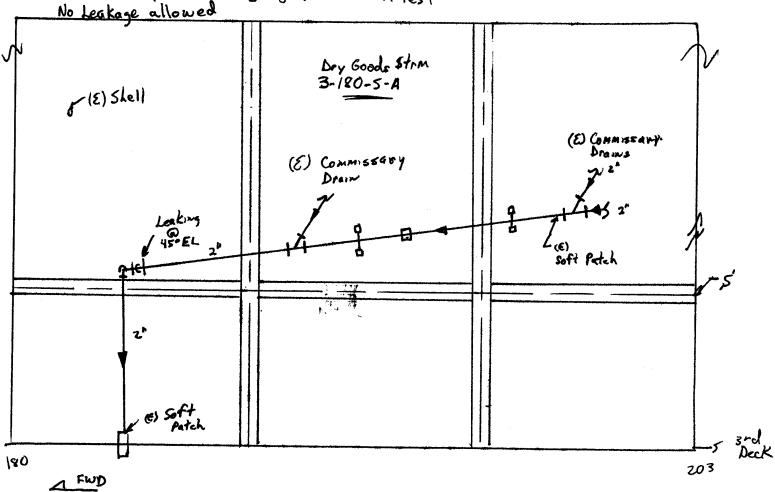
- 1. 2K's submitted:
  - a. SS02-xxxx Shell and structure UT.
  - b. SS02-xxxx Shell cleaning and preservation.
  - c. SS02-xxxx Drain line repair
- 2. Random UT's of corroded stiffeners and shell stbd, Fr 186-203, indicates corrosion is surface deterioration.
- 3. A graywater drain line from the galley leaked into the lagging. The leak was discovered after the moisture meter indicated saturated lagging.

ITEM NUMBER		USS KLAKRING FFG 42									
SYSTEM		ESWBS		EIC		APL				RIC	
HULL STRUCTURE		11	021	A301		N/A					
SHELL&SUPPORTIN	NG STRUCTU	RE	IDENT/SER	RIAL		CATION -180-5	30-5-A SS		CENTER	JSN	
EQUIPMENT STATUS	PROBL	EM STATU	S	CATEGOR	RY					EOC	
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMPTED 4. TNC - TEST NOT COMPLETEC 5. NOB - EQUIPMENT NOT ONBO	2. A - AW, 3. T - AW, 4. S - SHII *UNCORR	RRECTED* AITING PARTS AITING TECH PS FORCE* ECTED PROB	ASSIST* LEMS	2. Z-	PERSONNEL : EQUIPMENT S HARDWARE	SAFETY		4. D – DOWN* 5. L - LIMITED			.9
1. DEPOT 2. IIMA 2. PRIOR 3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 1 2. DURING 4. AVAILAE 30 M.	1. OPEF 2. NON- 3. REDU 4. NOT	STATUS  RATIONAL  OPERATIONAL  JCED CAPABILITY  APPLICABLE	2. MANUFA 3. LACK OF 4. COMMUI 5. INADEQI 6. INADEQI 7. NORMAL 8. NOT APF	MAL ENVIROMEN CTURER/INSTAL KNOWLEDGE O NICATION PROBL JATE INSTRUCTI JATE DESIGN WEAR AND TEA	T LLATION DEFE DR SKILL LEMS ION/PROCEDU	CTS 3	EASON  PERATIONAL PRIOR AL  JUNING ON THIS EQU  IG INADEQUATE TH- HOOL PRACTICAL THESICAPABILITIES  D FO SIF ACCOMPL  JULI OR AVAILABILIT  CAL DOCUMENTAT  NOT APPLICABLE	EQUIPMENT E THIS EQUIPMENT AL TRAINING ES MPLISHMENT BILITY WORK LIST ITATION			
MAN HRS EXPENDED  0001	MAN HRS F		•	COMPLETE	D ACTION	TAKEN		S/F MANH	OURS	PRIC	DRITY
SERIOUS - CORRECT AS SOON AS     SERIOUS - SUSPENSION OF EQUIP     SERIOUS - WAIVER OF EQUIPMENT     SAFETY ITEM - MINOR     COMBUSTIBLE MATERIAL	PMENT/SYSTEM/SPACE RE T/SYSTEM		2. M 3. M 4. C 5. M 6. N	MAINTENANCE ACT MAINTENANCE ACT MAINTENANCE ACT MAINTENANCE ACT MAINTENANCE ACT MAINTENANCE ACT MAINTENANCE ACT	TION COMPLE TION COMPLE ERRAL WILL E TION COMPLE VE, DESCRIBI	TED: PART TED: NO PA BE REMOVE TED: 2-M ( E IN REMAR	S NOT DRAWI ARTS REQUIR ED FROM CSM CAPABILITY U' RKS/DESCRIP'	N FROM SUPPLY ED IP TILIZED TION SECTION		1. MANDATO 2. ESSENTIA 3. HIGHLY D 4. DESIRABL	DESIRABLE E
DISCREPANCY DE SCRIPTION							•	•			
ON THE 1 <sup>ST</sup> STIFF	ENER(S13) A	BOVE	THE 3 <sup>RD</sup>	DECK, ST	BDSID	E, FR	186-20	3 AND S	SHELL 6	" ABO	VE AND
BELOW THE STIFFE	ENER WAS FO	DUND S	SATURA	TED.							
RECOMMENDED REPAIRS											
REMOVE APPROX.	. 34 SF OF SA	TURAT	ED SHE	LL INSUL	.ATION	AND	CORR	OSION E	XPOSE	D BY	
REMOVALS. PRIME	AND PRESE	RVF SE	IFIΙ ΔΝ	ID STRUC	TURF	AND	NSTAI	I NFW I	AGGIN	G	
										<u> </u>	
PAINT NEW LAGGIN	NG TO MATCH	1 SURF	ROUNDIN	NG AREA	S.						
SSPORT C221 POC:	J. BRUCKNER	(757) 39	96-4001,	TPOC: D.	SMITH	/HUGI	HES, CD	) I			
CSMP SUMMARY  DRY GO	ODS STRM (3-1	180-5-A)	STIFF &	SHELL LA	GGING	SATU	RATED		TEST #	MRC 11	02/1
ROOT CAUSE/AMPLIFICATION	м <b>Н</b> 1							s	TEP #	1.a	
SYSTEM LEVEL IMPACT											
PART NO.	NO	OMENCLAT	URE	QTY			NSN			C	OST
FIRST CONTACT XXXX		RATE MS3	5	SECOND CONT			RATE F	PHONE			
BLUEPRINTS, TECH MANUALS	S, PLANS, ETC.	14100	<u> </u>	11000		<u> </u>					BOARD
ASSESSOR / ACT / TECH ID#	ASSESSOR / ACT / TECH ID# SPORT 221/ D. SMITH/ HUGHES, CDI  TD TL LOGISTICIAN TS									TSP	

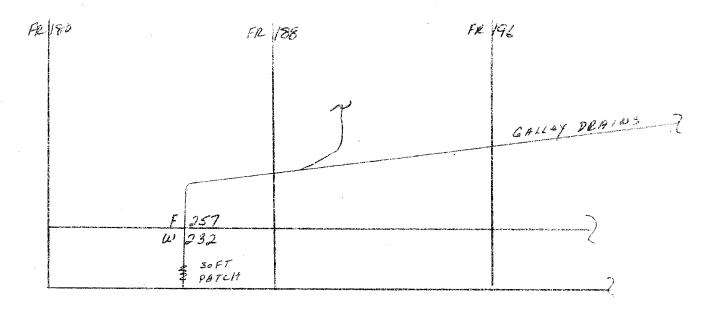
ITEM NUMBER						USS KLAKRING FFG 42					
SYSTEM		ESWI	3S	EIC	APL	000 KI	0110-	RIC			
HULL STRUCTUR	E		11021	A301	N/A						
EQUIPMENT NAME			IDENT/SEI	RIAL	LOCATIO	N	WORK	CENTER	JSN		
SHELL & SUPPOR	TING ST	RUCTURE	N/A		3-328-	)-A SS01					
EQUIPMENT STATUS		PROBLEM STA	ATUS	CATEGOR	′		· ·		EOC	;	
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMP 4. TNC - TEST NOT COMPLE 5. NOB - EQUIPMENT NOT O	TED	1. C - CORRECTED 2. A - AWAITING PA 3. T - AWAITING TE 4. S - SHIPS FORC *UNCORRECTED PA  **UNCORRECTED PA  **TORRECTED PA  *	ARTS ECH ASSIST* E*	2. Z – E0	ERSONNEL SAFETY QUIPMENT SAFETY ARDWARE	4. D – [ 5. L - Ll		.9			
	N TO BE ACC		STATUS	4 40000044	CAUSE	1.	S/F BACKLOG/OPE LACK OF MATERIA	RATIONAL PRIORI	TY		
2. IMA 3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 4. DU AV	MEDIATELY  IOR TO NEXT UNDER!  IOR TO NEXT DEPLOY  RING POST DEPLOYMALLABILITY  PEB02	2. 7MENT 3. 4.		2. MANUFAC 3. LACK OF K 4. COMMUNIO 5. INADEQUA 6. INADEQUA	L ENVIROMENT TURER/INSTALLATION DE NOWLEDGE OR SKILL SATION PROBLEMS TE INSTRUCTION/PROCE TE DESIGN JEAR AND TEAR CABLE	FECTS 3. 4. 5. 6. 7. 8.	VING ON THIS EQU	E THIS EQUIPMENT CAL TRAINING ES MPLISHMENT BILITY WORK LIST ITATION			
MAN HRS EXPENDED  0001	M	AN HRS REMAIN	IING	COMPLETED	ACTION TAKE	N	S/F MANHO	DURS	PRIO	RITY	
SAF  1. SERIOUS – CORRECT AS SOON 2. SERIOUS – SUSPENSION OF EQ 3. SERIOUS – WAIVER OF EQUIPM 4. SAFETY ITEM – MINOR 5. COMBUSTIBLE MATERIAL	UIPMENT/SYSTEI ENT/SYSTEM	D M/SPACE REQUIRED	2. M 3. M 4. C 6. M	MAINTENANCE ACTION MAINTENANCE ACTION MAINTENANCE ACTION CANCELLED – DEFERMAINTENANCE ACTION NONE OF THE ABOVE	ON COMPLETED: PAF ON COMPLETED: NO IRAL WILL BE REMO' ON COMPLETED: 2-M E, DESCRIBE IN REM	RTS NOT DRAWN PARTS REQUIREI VED FROM CSMP I CAPABILITY UTII ARKS/DESCRIPTION	FROM SUPPLY D LIZED ON SECTION	3	MANDATOR     ESSENTIAL     HIGHLY DE     DESIRABLE	ESIRABLE 4	
DISCREPANCY DE SCRIPTION	ON: PER S	SEMAT I IN	SPECTION	OF SUPP	LY STRM (	3-328-0- <i>A</i>	4), THE	SHELL	LAGGIN	1G	
WAS FOUND SAT	URATED	AND THE	SHELL AN	ND STIFFEI	NERS(S11-	S15), STI	BDSIDE	, FR 330	)-366 W	ERE	
FOUND CORRODE	ED.										
RECOMMENDED REPAIRS											
REMOVE APPRO	X. 300 SF	OF SATUR	RATED SH	IELL INSUL	ATION AN	ID CORR	OSION	EXPOSE	ED BY		
REMOVALS. PRIM	IE AND P	RESERVE	SHELL AN	ID INSTAL	LLAGGING	G. PAINT	LAGGIN	NG TO N	/ATCH		
SURROUNDING A	REAS.										
SSPORT C221 POC	: J. BRUC	KNER (757)	396-4001,	TPOC: D.	SMITH /HUG	HES, CDI					
CSMP SUMMARY	V STDM /	2 220 0 A\ C	UELL LAC	CINC SATU	DATED			TEST # I	MRC 110	2/1	
SUPPLY STRM (3-328-0-A) SHELL LAGGING SATURATED  ROOT CAUSE/AMPLIFICATION H1 STEP #									1.a		
SYSTEM LEVEL IMPACT											
PART NO. NOMENCLATURE QTY NSN									COST		
FIRST CONTACT  LEAC	ы	RAT SK		SECOND CONTA		RATE PH	HONE				
BLUEPRINTS, TECH MANUA			<b>4</b>	DEBULI		JICI				OARD	
ASSESSOR / ACT / TECH ID:	# SPOR1	Γ 221/ D. SN	/IITH/ HUG	HES, CDI		TD	TL	LOGIS	TICIAN	S NO TSP	

ITEM NUMBER				SHIP					SHIP JSS KLAKRING FFG 42				
SYSTEM	EIG	С		APL	000	ILAIN		RIC					
COMMISSARY DR	59311	A	301		N/A								
EQUIPMENT NAME		/SERIAL		L	OCATION			RK CENTER	JSN				
COMMISSARY DR	N/A			3	3-180-5	5-A	SS	602					
EQUIPMENT STATUS	STATUS	CATEGORY							Ē	OC			
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMPTED - 4. TNC - TEST NOT COMPLETED 5. NOB - EQUIPMENT NOT ONBOARD  1. C - CORRECTED* 2. A - AWAITING PARTS 3. T - AWAITING TECH ASSIST* 4. S - SHIPS FORCE* *UNCORRECTED PROBLEMS					1. S – PERSONNEL SAFETY 2. Z – EQUIPMENT SAFETY 3. H – HARDWARE 4. D – DOWN* 5. L - LIMITED						.9		
	N TO BE ACC	OMPLISHED	STATUS	S	ABNORMAL	CAL			1. S/F BACKLO	OG/OPERATIONAL PRIORITY			
2. IMA 3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 4. DU 4. DU	TECH ASSIST SHIP'S FORCE 3. PRIOR TO NEXT UNDERWAY 2. NON-OPERATIO 3. REDUCED CAPA 3. REDUCED CAPA					URER/INSTA NOWLEDGE ATION PRO	ALLATION DEFE OR SKILL BLEMS TION/PROCEDU		3. NO FORMAL 4. FORMAL TE 5. INADEQUAT 6. LACK OF FA 7. NOT AUTHO 8. FOR S/F OV 9. LACK OF TE	* MATERIAL MAL TRAINING ON THIS EQUIPMENT TRAINING INADEQUATE THIS EQUIPMENT UATE SCHOOL PRACTICAL TRAINING F FACILITIES/CAPABILITIES THORIZED FO SIF ACCOMPUISHMENT OVERHAUL OR AVAILABILITY WORK LIST *TECHNICAL DOCUMENTATION HER OR NOT APPLICABLE			
MAN HRS EXPENDED 0001	М	AN HRS REMA	AINING	С	OMPLETED	ACTIO	N TAKEN		S/F MA	NHOURS	PR	RIORITY	
1. SERIOUS – CORRECT AS SOON 2. SERIOUS – SUSPENSION OF EQ 3. SERIOUS – WAIVER OF EQUIPM 4. SAFETY ITEM – MINOR 5. COMBUSTIBLE MATERIAL	UIPMENT/SYSTEI ENT/SYSTEM	D M/SPACE REQUIRI		2. MAINTE 3. MAINTE 4. CANCE 5. MAINTE 6. NONE 0	ENANCE ACTIO ENANCE ACTIO ENANCE ACTIO LLED – DEFER ENANCE ACTIO DF THE ABOVE	N COMPL N COMPL RAL WILL N COMPL , DESCRII	.ETED: PART .ETED: NO P. .BE REMOVE .ETED: 2-M ( BE IN REMAI	'S NOT DRA ARTS REQI ED FROM C CAPABILITY RKS/DESCF	AWN FROM SU JIRED SMP 7 UTILIZED RIPTION SECTI	ON	4. DESIRA	DESIRABLE BLE	
DISCREPANCY DE SCRIPTI	ON: PER S	SEMATII	NSPECTI	ON OF	DRY G	100E	S STF	RM (3-	180-5-A	), THE CC	OMMIS	SARY	
DRAIN PIPING FR	DRAIN PIPING FROM THE GALLEY (2-180-1-A) IS LEAKING AND DAMAGING THE SHELL LAGGING												
AND CORRODING	AND CORRODING THE SHELL.												
RECOMMENDED REPAIRS													
REMOVE THE (2)	EXISTIN	G SOFT P	ATCHES	FROM	/ THE P	IPING	G AND	THE	45-DEG	REE ELL	REPA	NR.	
THE PIPING AND	REPLACI	E THE 45-	DEGREE	ELL.									
OPERATIONALLY	TEST DE	DAIRED	DIDING /	NI LOV	MADLE	LEAL	ZACE.	NON					
OPERATIONALLY	IESI KI	PAIRED	PIPING. F	ALLOV	VADLE	LEA	NAGE:	NON	<u> </u>				
SSPORT C221 POC	: J. BRUC	CKNER (75	7) 396-400	1, TP	OC: D. S	SMITH	l/HUGI	HES, C	DI				
CSMP SUMMARY  DRY G	OODS ST	RM (3-180	-5-A) COM	MISSA	RY DRA	IN PIE	PING I F	=AKIN	G	TEST #	MRC 1	102/1	
ROOT CAUSE/AMPLIFICATI	114	1111 (0 100	071,00111		SSARY DRAIN PIPING LEAKING					STEP # 1.a			
SYSTEM LEVEL IMPACT													
PART NO.	NCLATURE		QTY			N:	SN			COST			
					17017								
											1		
			.== '				-		B.1				
FIRST CONTACT SMITI	н		IS2		ND CONTA	CT		RATE MS1	PHONE				
BLUEPRINTS, TECH MANUA												I BOARD	
ASSESSOR / ACT / TECH ID	ASSESSOR / ACT / TECH ID# SPORT 221/ D. SMITH/ HUGHES, CDI  TD TL LOGISTICIAN TSP												

1 Remove and Repair (E) Soft petch areas 5 Clear Preserve and Stered piping
2 Remove 45° Eld and visually inspect piping
3 Install New 45° Eld and
4 Test New/repaired Diping by operational test
No Leakage allowed



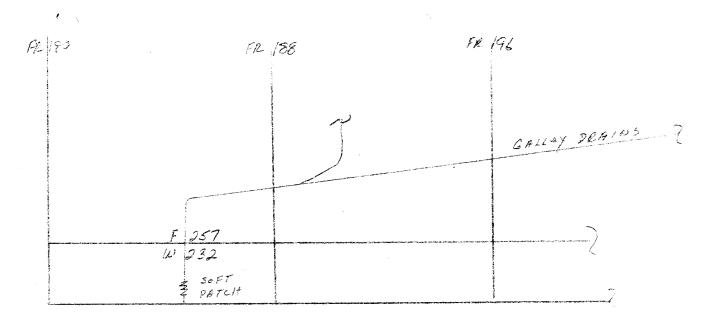
Partial Elevation
Frang outbol to 5+60
NTS



3-180-5A CommisARY STORE ROOM

USS KLAKRING FFG 42

FJLAROCK, J LARCER
CAGO SYS INC.
4/4/31



3-180-5A CommisARY STORE ROOM

USS KLAKRING FFG 42

FSLARMY, V La Box & Q E O EVE - 112 4/4/31



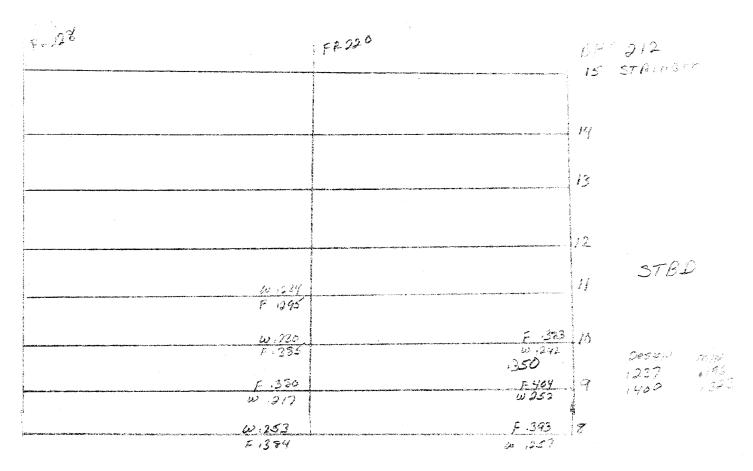
Leaking drain line, Fr 186, stbd. At the deck, a soft patch is visible

# SHELL CONDITION ASSESSMENT SURVEY No. 2 AUXILIARY MACHINERY ROOM (5-212-0-E)

- 1. 2K's submitted:
  - a. xxxx-xxxx Shell and structure preservation in way of lagging.
  - b. xxxx-xxxx Stiffener replacement.
- 2. Corrosion noted in bilge areas is covered under Work Item 631-11-001 of availability 3/01.
- 3. Random UT's of corroded stiffeners and shell port and stbd, Fr 212-226, U/L & L/L indicates corrosion is surface deterioration except as noted in the 2K's and UT results.

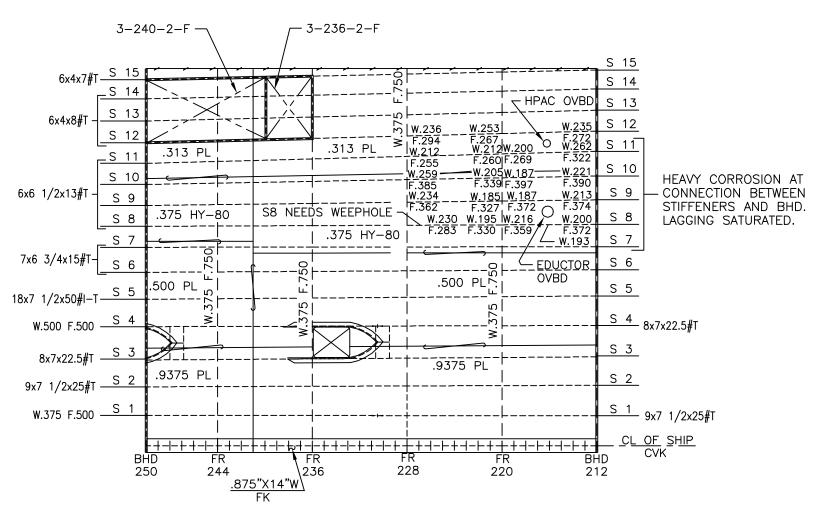
ITEM NUMBER							USS KLAKRING FFG 42					
SYSTEM	ES	SWBS		EIC	APL	000 K	LAMIN	0110-	RIC			
HULL STRUCTUR	E		110	21	A301	N/A						
EQUIPMENT NAME				IDENT/SER	RIAL	LOCATIO	N	WORK	CENTER	JSN		
SHELL&SUPPORT	TING STR	UCTURE	:	N/A		5-212-0	0-E	EM02	2			
EQUIPMENT STATUS		PROBLEM S	STATUS		CATEGORY	L		l		EO	С	
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMP 4. TNC - TEST NOT COMPLE 5. NOB - EQUIPMENT NOT O	CTED* G PARTS G TECH AS DRCE* ED PROBLE			ONNEL SAFETY  PMENT SAFETY  DWARE	4. D – l 5. L - L		3	.5				
	N TO BE ACC	OMPLISHED		STATUS		CAUSE	1.	S/F BACKLOG/OP	ERATIONAL PRIORI	TY		
1. DEPOT 2. IMA 2. PR 3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 1 4. DU 3. 30	PERATIONAL ED CAPABILITY PLICABLE	3. LACK OF KNO' 4. COMMUNICAT 5. INADEQUATE 6. INADEQUATE 7. NORMAL WEA 8. NOT APPLICAE	ER/INSTALLATION DEI WLEDGE OR SKILL ON PROBLEMS NSTRUCTION/PROCEI DESIGN R AND TEAR	DURE 3. 4. 5. 6. 7. 8.	2. LACK OF MATERIAL  NO FORMAL TRAINING ON THIS EQUIPMENT  FORMAL TRAINING INADEQUATE THIS EQUIPMENT  NADEQUATE SCHOOL PRACTICAL TRAINING  LACK OF FACILITIES/CAPABILITIES  NOT AUTHORIZED FO SP ACCOMPLISHMENT  FOR SP OVERHAUL OR AVAILABILITY WORK UST  LACK OF TECHNICAL DOCUMENTATION							
MAN HRS EXPENDED  0001	М	AN HRS REMA	AINING		COMPLETED A	CTION TAKE	N	S/F MANH	OURS	PRIC	ORITY	
1. SERIOUS – CORRECT AS SOON 2. SERIOUS – SUSPENSION OF EQ 3. SERIOUS – WAIVER OF EQUIPM 4. SAFETY ITEM – MINOR 5. COMBUSTIBLE MATERIAL	UIPMENT/SYSTEI ENT/SYSTEM	<b>D</b> M/SPACE REQUIR		2. M 3. M 4. C 5. M 6. N	IAINTENANCE ACTION IAINTENANCE ACTION IAINTENANCE ACTION IAINTENANCE ACTION ANCELLED – DEFERRA IAINTENANCE ACTION ONE OF THE ABOVE, D	COMPLETED: PAR COMPLETED: NO IL WILL BE REMO\ COMPLETED: 2-N IESCRIBE IN REM	RTS NOT DRAWN PARTS REQUIRE /ED FROM CSMP I CAPABILITY UTI ARKS/DESCRIPTI	FROM SUPPLY D LIZED ON SECTION	2	1. MANDATO 2. ESSENTIA 3. HIGHLY D 4. DESIRABL	AL DESIRABLE	
DISCREPANCY DE SCRIPTI	ON: PER S	SEMATII	INSPE	CTION	OF AMR 2	(5-212-0-l	E), STIFF	<b>ENERS</b>	P9(6"X6	6 ½"T)		
FROM FR 214-221	& P10 (6	6"X6 ½"T	) FRC	M FR 2	215-219 WEF	RE FOUN	D CORR	ODED. I	JT REAL	DINGS		
4/5/01 INDICATE S	TIFFENE	RS ARE	BELC	W MIN	IMUM TOLE	RANCES	) <u>.</u>					
RECOMMENDED REPAIRS												
CROP OUT AND F	REPLACE	Ε ΔΡΡΡΟ	X 11 I	F OF (	6"X 6 1/4" T)	AS INDIC	ΔTFD Δ	BOVE I	PRIME A	\		
NEW AND DISTUR				•	-				- TOIME 7	\ <u></u>		
NEW AND DISTUR	BED 30	KFACES.	PAIN	11 10 W	IATCH SUK	KOUNDIN	IG AREA	.S.				
SSPORT C221 POC	: J. BRUC	CKNER (75	57) 396	3-4001.	TPOC: D. SI	/ITH /HUG	HES. CDI					
CSMP SUMMARY			,,,,,,,,						TECT #1	MDC 11	02/1	
	•	E) STIFFEI	NERS	CORRO	DED			TEST # MRC 1102/1				
ROOT CAUSE/AMPLIFICATI	on H1							S	TEP #	1.a		
SYSTEM LEVEL IMPACT												
PART NO.	RE	QTY	QTY				соѕт					
		<b>n</b>						1011-				
FIRST CONTACT FERRA	RA		EN2	S	SECOND CONTAC DALTON	т	ENC PI	HONE				
BLUEPRINTS, TECH MANUA							-			l l	BOARD	
ASSESSOR / ACT / TECH ID	# SPORT	Γ 221/ D. S	SMITH	1/ HUG	HES, CDI		TD	TL	LOGIS	TICIAN	TSP NO	

IIEM NUMBER								USS KLAKRING FFG 42					
SYSTEM		ESWBS		EIC			APL				RIC		
HULL STRUCTUR	110		A301			N/A							
EQUIPMENT NAME SHELL&SUPPORT	ING STRU		IDENT/SER	RIAL			CATION -212-0		WOR EM	K CENTER	JSN		
EQUIPMENT STATUS		ROBLEM STATUS		CAT	EGORY		-212-0	<b></b>		<u> </u>	EO	С	
		C - CORRECTED*				RSONNEL	SAFETY	4.	D – DOWN*				
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMP 4. TNC - TEST NOT COMPLE	2. 3. 4. *UI	A - AWAITING PARTS T - AWAITING TECH AS S - SHIPS FORCE* NCORRECTED PROBLE				UIPMENT		5.	L - LIMITED	3		.9	
5. NOB - EQUIPMENT NOT O	NBOARD N TO BE ACCOMP	LIEUED	CTATUC		3. H – HA		er.		DEFERDAT	PEAGON			
	MEDIATELY	1. OPERA	TIONAL	1.	ABNORMAL	ENVIROMEN	п	-070	<ol><li>LACK OF MAT</li></ol>	G/OPERATIONAL PRIOR FERIAL			
3. TECH ASSIST	IOR TO NEXT UNDERWAY		PERATIONAL ED CAPABILITY	3. 4.	LACK OF KN COMMUNICA	NOWLEDGE O ATION PROB			<ol> <li>FORMAL TRA</li> <li>INADEQUATE</li> </ol>	TRAINING ON THIS EQ INING INADEQUATE T SCHOOL PRACTICAL CILITIES/CAPABILITIES	HIS EQUIPMENT TRAINING		
SHIP'S FORCE     SFWL     4. DU	RING POST DEPLOYMENT AILABILITY	4. NOT AF	_	6. 7.	INADEQUAT	E DESIGN EAR AND TEA			<ol> <li>NOT AUTHOR</li> <li>FOR S/F OVE</li> <li>LACK OF TEO</li> </ol>	RIZED FO S/F ACCOMP RHAUL OR AVAILABILI CHNICAL DOCUMENTA	LISHMENT TY WORK LIST		
MAN HRS EXPENDED	MAR02	4 HRS REMAINING		COME	I FTFD	ACTION	N TAKEN	7		OR NOT APPLICABLE	LE		
0001	WAN	1		COM	LLILD	ACTIO	1 IAKEN		3/1 WIAI	41100K3	URS PRIORITY		
<ol> <li>SERIOUS – CORRECT AS SOON</li> </ol>	AS POSSIBLE	ACE DECLUDED	2. N		CE ACTION	N COMPLE	TED: PART	S NOT DRA	ROM SUPPLY WN FROM SUP IIRED	PLY	<ol> <li>MANDATO</li> <li>ESSENTIA</li> </ol>		
<ol> <li>SERIOUS – SUSPENSION OF EQ</li> <li>SERIOUS – WAIVER OF EQUIPM</li> <li>SAFETY ITEM – MINOR</li> </ol>		ACE REQUIRED	4. C 5. N	CANCELLED MAINTENANG	<ul> <li>DEFERF</li> <li>CE ACTIOI</li> </ul>	RAL WILL E N COMPLE	BE REMOV ETED: 2-M	ED FROM CS CAPABILITY	SMP UTILIZED		<ol> <li>HIGHLY D</li> <li>DESIRABL</li> </ol>		
5. COMBUSTIBLE MATERIAL			6. N	NONE OF TH	IE ABOVE,	, DESCRIB	E IN REMA	RKS/DESCR	IPTION SECTIO	N .		4	
DISCREPANCY DE SCRIPTI	on: PER SEI	MAT I INSPE	ECTION	I OF A	MR 2	2 (5-21	12-0-E	), THE	SHELL	LAGGIN	G		
STBDSIDE, FR 21	2-226, FRO	M THE BOT	TOM E	DGE C	F TH	IE LA	GGIN	G TO	1' ABOV	E THE U	/L GRA	TING &	
PORTSIDE, FR 212	2-226, FRO	M THE BOT	ГОМ ЕС	OGE O	F TH	E LA	GGIN	3 TO 1	' ABOV	E THE U/	L GRA1	TING	
WAS FOUND SAT	URATED.												
RECOMMENDED REPAIRS													
REMOVE APPRO	V 225 SE O	E CATUDAT	ED CU		ICI II	ATIO	N DE	MOVE	CORR	OCION EV	/DOSEI	) BV	
REIVIOVE APPRO	A. 223 SF U	r SATUKAI	ED SH	ELL II	NOUL	AIIO	IN. KE	IVIOVE	CORR	JSIUN E	KPUSEL	ום כ	
INSULATION REM	OVALS. PR	IME AND PI	RESER	VE SH	IELL .	AND	STRU	CTUR	E AND I	NSTALL	NEW		
INSULATION. PAIR	NT NEW INS	SULATION T	О МАТ	CH SU	JRRC	DUND	ING A	REAS	) <u>.</u>				
SSPORT C221 POC	: J. BRUCK	NER (757) 396	6-4001,	TPOC	: D. S	MITH	/HUG	HES, C	DI				
CSMP SUMMARY	/F 242 0 E\ 6	CTIEE & CHE	11100	CINIC C	ATLIC	ATE	`			TEST #	MRC 11	02/1	
ROOT CAUSE/AMPLIFICATI		STIFF & SHE	LL LAGO	JING S	AIUR	KAIEL	,			STEP # 1.a			
SYSTEM LEVEL IMPACT													
PART NO.		NOMENCLATU	RE		QTY			NS	SN SN			OST	
			·										
FIRST CONTACT FERRA	RA	RATE EN2	5	SECOND	CONTA TON	СТ		RATE ENC	PHONE				
BLUEPRINTS, TECH MANUA											_	BOARD	
ASSESSOR / ACT / TECH ID	H/ HUG	HES, (	CDI			TD	TL	LOGIS	TICIAN	TSP			



NR2 AMR 5-212-0-E

USSKLAKRING FFG 42



FFG 42 UT SURVEY 4/4/01. PORTSIDE, AUXILIARY MACHINERY ROOM NO. 2 (5-212-0-E)

FFG-42 # 2 Aux. Machinery Room (5-212-0-E)



Seawater overboard, Fr 216, U/L. Shell is not thinned below specs. This area should not be lagged.



Stiffener P8, Fr 218. UT indicates the web of the stiffener is very thin. A weep hole in this area would reduce the corrosion.



Corrosion at the intersection of BHD 212, port shell and P9. Areas look bad, but UT's indicate they are within specs. Another place that should not be lagged.



The flange and web of P8 at Fr 218 are very thin.



Heavy corrosion behind lagging at the connection between P9, the shell and BHD 212. UT readings indicate thinned areas but all within specs  $\frac{1}{2}$ 



Similar corrosion on P9 at Fr 226. UT's indicate this is mainly surface corrosion at this time.

FFG-42 # 2 Aux. Machinery Room (5-212-0-E)



Corrosion, portside, outboard of the HPAC, Fr 218, just below the U/L grating.



Additional view of same area, showing corrosion in the web of P9.

FFG-42 # 2 Aux. Machinery Room (5-212-0-E)



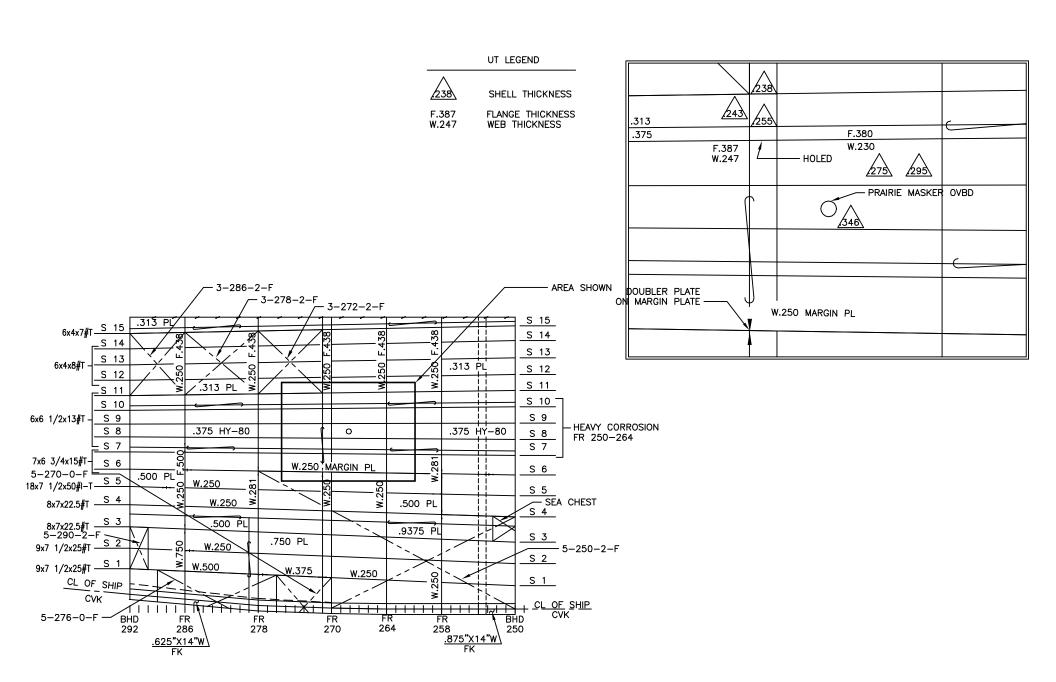
Corrosion at the connection between the shell and the Transverse bhd at Fr 212. Bhd is thinned but within specs.

## SHELL CONDITION ASSESSMENT SURVEY MAIN MACHINERY ROOM (5-250-0-E)

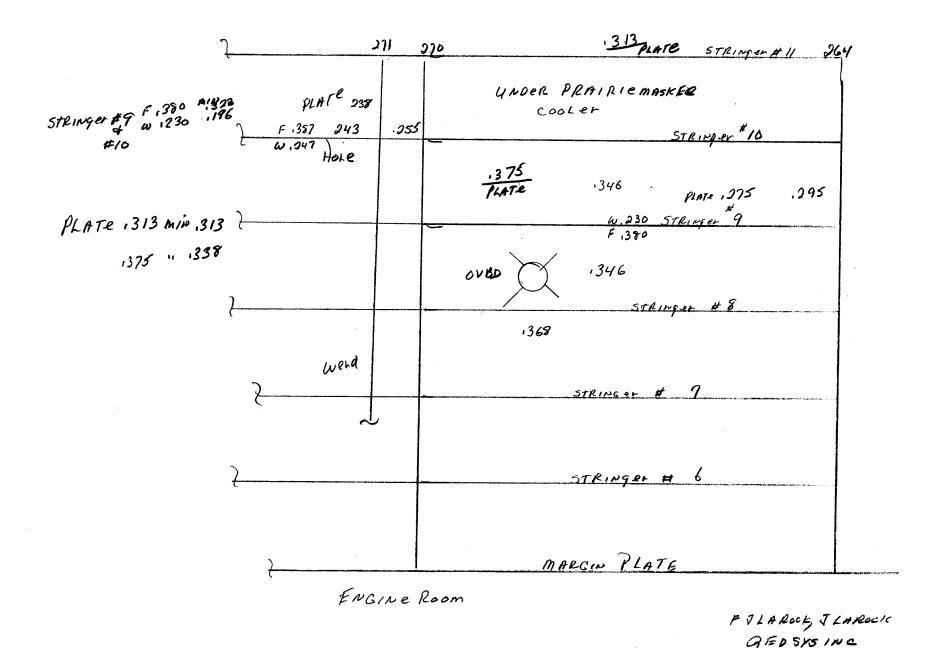
- 1. 2K's submitted:
  - a. EM01-xxxx Shell and structure preservation in way of lagging.
  - b. EM01-xxxx Stiffener replacement.
- 2. Corrosion noted in bilge areas is covered under Work Item 631-11-001 of availability 3/01.
- 3. UT indicates thinned shell in the areas surrounding the transverse weld seam at Fr 271 portside and around the Prairie masker cooler seawater ovbd at Fr 267.
- 4. Random UT's of corroded stiffeners and shell port and stbd, Fr 250 –264, indicates corrosion is surface deterioration except as noted on 2k's and UT readings.

ITEM NUMBER							SHIP	(I AKRII	NG FFG	12	
SYSTEM		ES	WBS	EIC		APL	0001	LAMINI	10110	RIC	
HULL STRUCTUR	E		11021	A301		N/A					
EQUIPMENT NAME		I	IDENT/SE	RIAL		LOCATION		WORK	CENTER	JSN	
SHELL&SUPPORT	ING STR	UCTURE	N/A			5-250-0	-E	EMO	1		
EQUIPMENT STATUS		PROBLEM S	TATUS	CATE	GORY					EO	С
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMP 4. TNC - TEST NOT COMPLE 5. NOB - EQUIPMENT NOT O	TED	C - CORRECT     A - AWAITING     T - AWAITING     S - SHIPS FO     "UNCORRECTED	S PARTS S TECH ASSIST* RCE*	2.	S – PERSONI Z – EQUIPME H – HARDWA	ENT SAFETY		– DOWN* - LIMITED	3		.5
	N TO BE ACC	OMPLISHED	STATUS			AUSE		DEFERRAL I  1. S/F BACKLOG/0	PERATIONAL PRIOR	ITY	
2. IMA 3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 4. DU AVI	MEDIATELY  FOR TO NEXT UNDERS  FOR TO NEXT DEPLOY  RING POST DEPLOYMAILABILITY   MARO2	MENT JENT 3		2. MA 3. LA 4. CO 5. INA 6. INA 7. NO	CK OF KNOWLED MMUNICATION F	ISTALLATION DEFE DGE OR SKILL PROBLEMS RUCTION/PROCEDU GN	RE .	<ol> <li>FORMAL TRAIN</li> <li>INADEQUATE S</li> <li>LACK OF FACIL</li> <li>NOT AUTHORIZ</li> <li>FOR S/F OVERI</li> <li>LACK OF TECH</li> </ol>	RIAL IMINING ON THIS EQI INIG INADEQUATE TH CHOOL PRACTICAL ITIES/CAPABILITIES ED FO SIF ACCOMPI HAUL OR AVAILABILI NICAL DOCUMENTAT R NOT APPLICABLE	HIS EQUIPMENT TRAINING LISHMENT TY WORK LIST	
MAN HRS EXPENDED  0001	M	AN HRS REMA	INING	COMPL	ETED ACT	ION TAKEN		S/F MANI	HOURS	PRIC	ORITY
SAF  1. SERIOUS – CORRECT AS SOON 2. SERIOUS – SUSPENSION OF EQ 3. SERIOUS – WAIVER OF EQUIPM 4. SAFETY ITEM – MINOR 5. COMBUSTIBLE MATERIAL	UIPMENT/SYSTEI ENT/SYSTEM	<b>)</b> M/SPACE REQUIRE	2. 3. 4. 5. 6.	MAINTENANCE MAINTENANCE CANCELLED – MAINTENANCE NONE OF THE	ACTION COM ACTION COM DEFERRAL W ACTION COM ABOVE, DESC	MPLETED: PART MPLETED: PART MPLETED: NO PA ILL BE REMOVE MPLETED: 2-M C CRIBE IN REMAR	S NOT DRAW ARTS REQUIR D FROM CSM APABILITY U KS/DESCRIP	IN FROM SUPPI RED IP ITILIZED PTION SECTION	_Y	1. MANDATO 2. ESSENTIA 3. HIGHLY DESIRABL 4. DESIRABL	AL DESIRABLE
DISCREPANCY DE SCRIPTIO	on: PER S	SEMAT I II	NSPECTION	N OF EN	GINER	OOM (5	-250-0-	E), STIF	FENER		
P9 (6"X 6 ½"T) FR	OM FR 2	270-272 W	AS FOUND	CORRO	DED A	ND HO	ED. U	T READ	INGS 4/4	I/01	
INDICATE STIFFE	NER IS B	ELOW MI	NIMUM TO	LERANC	CES.						
RECOMMENDED REPAIRS											
CROP OUT AND F	REPLACE	E APPROX	XIMATELY 2	2 LF OF	(6"X 6	½" T) A	S INDI	CATED	ABOVE.		
PRIME AND PAINT					•	•				AS.	
T KINIZ 7 II VI	7(22112		IOTORBED							., (01	
SSPORT C221 POC	: J. BRUC	KNER (75	7) 396-4001,	TPOC:	D. SMIT	TH /HUGH	IES, CD	)I			
CSMP SUMMARY									TEST #	MRC 11	02/1
ROOT CAUSE/AMPLIFICATI		(5-250-0-E)	STIFFENER	S CORR	ODED				STEP #	1.a	
SYSTEM LEVEL IMPACT	ON III								J. 2. "		
			101 471107								
PART NO.		NOMEN	ICLATURE	Q	ГҮ		NSN	1			COST
FIRST CONTACT			ATE	SECOND C				PHONE			
HOAGLU BLUEPRINTS, TECH MANUA			SE2	MAT	US	G	SM2			ON F	BOARD
					<u>.                                    </u>	П	TD	T1	1,000	YI	E <b>S</b> NO
ASSESSOR / ACT / TECH ID:	SESSOR / ACT / TECH ID# SPORT 221/ D. SMITH/ HUGHES, CDI TD TL LOGISTICIAN TSP										

IIEM NUMBER							USS KLAKRING FFG 42					
SYSTEM		ESWBS	El	IC		APL	1000			RIC		
HULL STRUCTUR	E	1102		301		N/A						
EQUIPMENT NAME SHELL&SUPPORT	TING STRUC		ENT/SERIAL <b>/A</b>			CATION -250-0		WOR EM	K CENTER	JSN		
EQUIPMENT STATUS		OBLEM STATUS	<u> </u>	CATEGOR		-230-0	<i>-</i>			l EO	C	
		- CORRECTED*			ERSONNEL	SAFETY	4.	D – DOWN*				
SAT - SATISFACTORY     UNSAT - UNSATISFACTORY     TNA - TEST NOT ATTEMP	2. A 3. T 4. S	- AWAITING PARTS - AWAITING TECH ASSIS - SHIPS FORCE*			QUIPMENT		5.	LIMITED	3		.9	
4. TNC - TEST NOT COMPLE 5. NOB - EQUIPMENT NOT O	NBOARD	CORRECTED PROBLEMS		3. H – H	ARDWARE							
	N TO BE ACCOMPLI	SHED ST.  1. OPERATION	ATUS	1. ABNORMA	CAU L ENVIROMEN			1. S/F BACKLOG 2. LACK OF MAT	OPERATIONAL PRIOR	ITY		
2. IMA 3. TECH ASSIST	IOR TO NEXT UNDERWAY	2. NON-OPER	ATIONAL	MANUFAC     LACK OF     COMMUNI	TURER/INSTA KNOWLEDGE ( CATION PROB	LLATION DEF OR SKILL LEMS		<ol> <li>NO FORMAL TA</li> <li>FORMAL TRA</li> <li>INADEQUATE</li> </ol>	RAINING ON THIS EQUANDED IN SCHOOL PRACTICAL	IIS EQUIPMENT		
SHIP'S FORCE     SFWL     4. DU	IOR TO NEXT DEPLOYMENT RING POST DEPLOYMENT AILABILITY	REDUCED (     NOT APPLIC	_		ATE INSTRUCT ATE DESIGN WEAR AND TE		DURE	<ol> <li>NOT AUTHOR</li> <li>FOR S/F OVE</li> </ol>	ILITIES/CAPABILITIES IZED FO S/F ACCOMPI RHAUL OR AVAILABILIT HNICAL DOCUMENTAT	TY WORK LIST		
30	MAR02	4)					7	0. OTHER	OR NOT APPLICABLE			
MAN HRS EXPENDED 0001	MAN H	RS REMAINING  1		COMPLETE	D ACTIO	N TAKEN	1	S/F MAN	IHOURS	PRIC	RITY	
SAI  1. SERIOUS – CORRECT AS SOON	FETY HAZARD AS POSSIBLE		<ol><li>MAINT</li></ol>	ENANCE ACTI	ON COMPLE	ETED: PAR	TS NOT DRA	WN FROM SUPI	DL V	MANDATO     ESSENTIA		
SERIOUS – SUSPENSION OF EQ     SERIOUS – WAIVER OF EQUIPM     SAFETY ITEM – MINOR	UIPMENT/SYSTEM/SPAC	CE REQUIRED	<ol><li>CANCI</li></ol>	ENANCE ACTI ELLED – DEFEI ENANCE ACTI	RRAL WILL I	BE REMOV	ED FROM CS	SMP		HIGHLY D     DESIRABL	ESIRABLE	
5. COMBUSTIBLE MATERIAL								IPTION SECTION	N	4. DESIKABL	<b>(</b> <sub>4</sub> )	
DISCREPANCY DE SCRIPTI	ON: PER SEM	IAT I INSPEC	TION O	F ENGII	NE RC	OM (	5-250-0	)-E). TH	E SHELL	LAGGI	NG	
STBDSIDE, FR 250-272, FROM THE BOTTOM EDGE OF THE LAGGING TO 6' ABOVE THE L/L GRATING &												
PORTSIDE, FR 250												
WAS FOUND SAT												
RECOMMENDED REPAIRS												
REMOVE APPRO	X. 400 SF OF	SATURATE	D SHEL	L INSU	LATIO	N. RE	MOVE	CORRO	SION EX	POSE	BY	
INSULATION REM	OVALS. PRI	ME AND PRI	ESERVE	SHELL	AND	STRU	JCTUR	E AND I	NSTALL	NEW		
INSULATION. PAII	NI NEW INS	ULATION TO	MAICE	SURR	ООИД	ING A	AREAS	•				
SSPORT C221 POO	: J. BRUCKN	ER (757) 396-4	4001, TP	POC: D.	SMITH	/HUG	HES, C	DI				
CSMP SUMMARY  ENGIN	EROOM (5-25	0-0-E) STIFF 8	& SHELL	LAGGIN	G SAT	URAT	ED		TEST #	MRC 11	02/1	
ROOT CAUSE/AMPLIFICAT		<del></del>	<u></u>		<u> </u>	<u> </u>			STEP #	1.a		
SYSTEM LEVEL IMPACT								<u>'</u>				
PART NO.		NOMENCLATURE		QTY			NS	N		С	ost	
FIRST CONTACT		RATE		OND CONT.			RATE	PHONE				
HOAGLU BLUEPRINTS, TECH MANUA		GSE2		MATUS		(	GSM2			ON P	OARD	
		1/5 6					_ TD	T-1	1 10010	YE	S NO	
ASSESSOR / ACT / TECH ID	SESSOR / ACT / TECH ID# SPORT 221/ D. SMITH/ HUGHES, CDI TD TL LOGISTICIAN TSP											

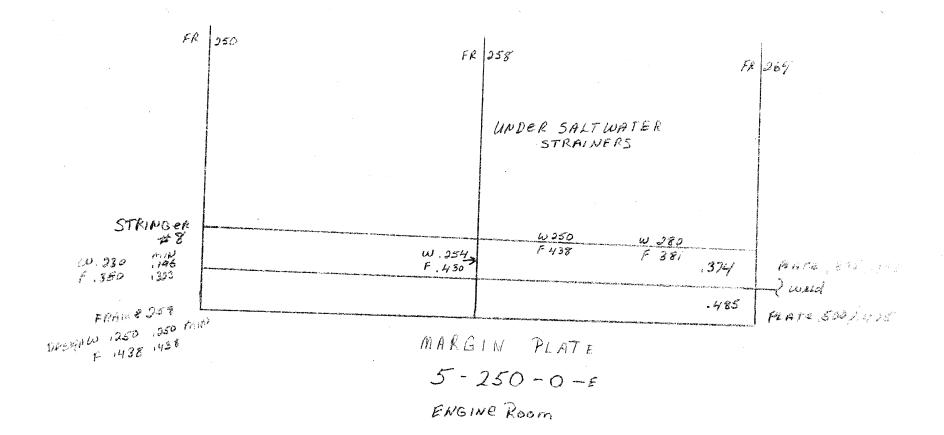


FFG-42 UT SURVEY 4/4/01. PORTSIDE MAIN MACHINERY ROOM (5-250-0-E)



USS KLAKRING FFG 42

4/3/01



MIN .138 STRINGER # 10 ,228 F 1380 h ##

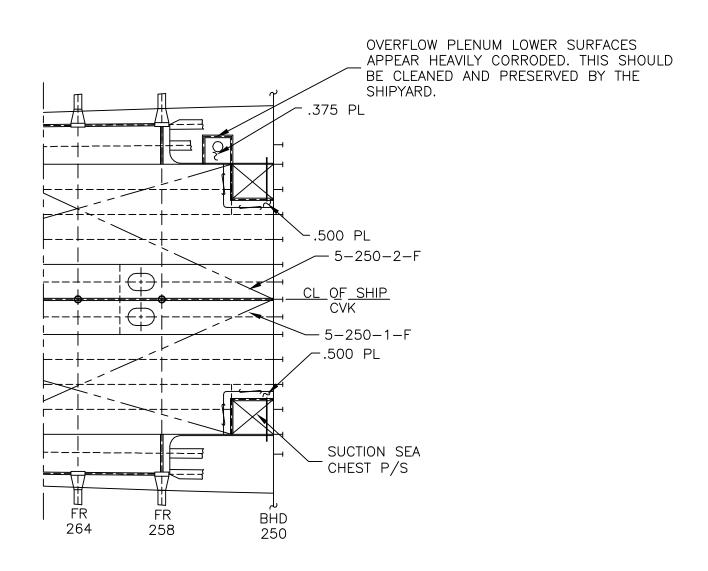
PLATE . 313 MIN . 313

	1		r.			``
	FR2C4		FR 258	ÿ		./
Cra Cont 12						BHO 250
Stringer # 12			1319	OVBD		
STRINGER # 1.8		300	E.383 W 1244	,290 ,234	,29 <u>5</u> 1214	
STRINGER # 10	F 376				*	
	W 238					menaparange caru

ENGINE ROOM PORTSIDE

FJLAROCK, JLAROCK QED SYS INC.

4/3/01



NON-STRUCTURAL CORROSION NOTED FFG 42 MAIN MACHINERY ROOM (5-250-0-E)

FFG-42 Main Engine Room (5-250-0-E)



This level of corrosion was common on all L/L areas where lagging was opened for inspection.



Areas of shell in way of weep holes below overboards was typically found with heavy corrosion

FFG-42 Main Engine Room (5-250-0-E) side



Lagging saturated above the bilge level, Fr 260, stbd side.



Extreme corrosion behind lagging in way of lube oil cooler ovbd, Fr 272 stbd side.

FFG-42 Main Engine Room (5-250-0-E)



Corrosion behind lagging that otherwise appears satisfactory.



Lagging showing signs of saturation

FFG-42 Main Engine Room (5-250-0-E)



Corrosion under Prairie Masker cooler, around overboard. Some thin plate was determined by UT. See UT grid.



Additional view of same area

FFG-42 Main Engine Room (5-250-0-E)



Arrow indicates what appears to be a doubler plate on the keel side of the margin plate. Anomaly is at Fr 271, port side. Note the heavy corrosion of the area. Shipsforce indicated the bilges were to be cleaned and preserved by the shipyard.



Closer view of doubler plate. No action needs to be taken.

FFG-42 Main Engine Room (5-250-0-E)



Area under Prairie Masker cooler, Fr 268, port side L/L. Seawater leakge and drains have caused localized shell thinning. See UT grids.



Closer view of areas defined above.

FFG-42 Main Engine Room (5-250-0-E)



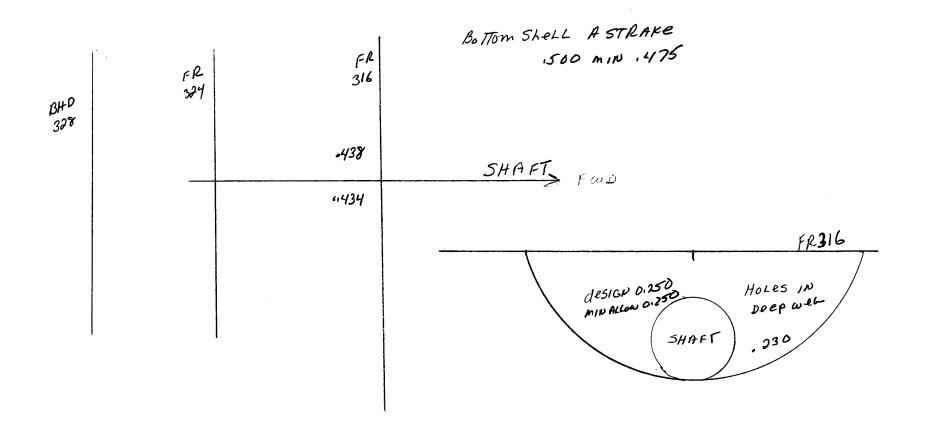
Area around eductor overboard, Fr 256, port side, L/L. Structure is satisfactory, but saturated lagging has caused considerable corrosion.



Different view of areas defined above

### SHELL CONDITION ASSESSMENT SURVEY No. 3 AUXILIARY MACHINERY ROOM (5-292-0-E)

- 1. No 2K's submitted
- 2. Corrosion noted in bilge areas is covered under SEMAT Structural assessment JSN's. Ships force is spot cleaning and painting bilge areas also.
- 3. Random UT's of corroded stiffeners and shell around the stern tube, Fr 326 L/L indicate corrosion is surface deterioration.



USS KLAK RING FFG-42

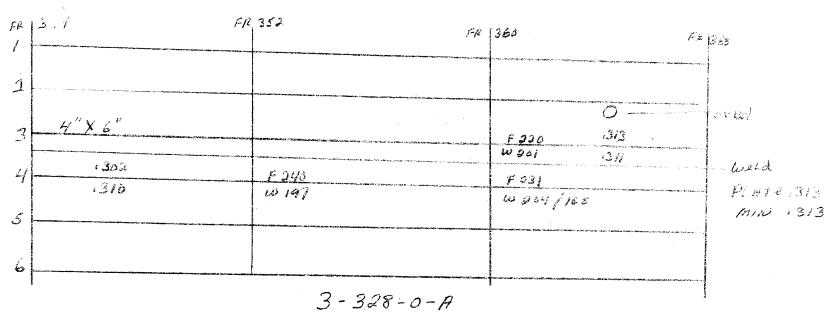
FJLAROCK, JLAROCK
QED548 INC
4/3/01

## SHELL CONDITION ASSESSMENT SURVEY SUPPLY ISSUE STOREROOM

(3-328-0-A)

- 1. 2K's submitted:
  - a. xxxx-xxxx Shell and structure UT.
  - b. xxxx-xxxx Shell cleaning and preservation.
  - c. xxxx-xxxx Drain line repair
- 2. Random UT's of corroded stiffeners and shell stbd, Fr 330-367, indicates corrosion is surface deterioration.
- 3. A deck drain line from the RAST spaces above leaked into the lagging. The leak was discovered after the moisture meter indicated saturated lagging. The ships force submitted a job to have the leak repaired which was cleared as complete by SIMA Norfolk in May 00. (SS01-0532) Scope of saturated insulation and amount of corrosion on the shell indicates the line has been leaking for a long time.

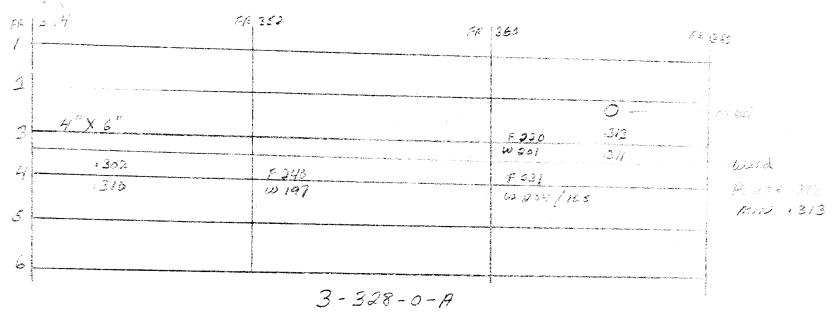
ITEM NUMBER						SHIP	_AKRIN(	S FFG /	12	
SYSTEM		ESV	VBS	EIC	APL	000 KI		<u> </u>	RIC	
HULL STRUCTUR	E		11021	A301	N/A					
EQUIPMENT NAME			IDENT/SEI	RIAL	LOCATIO	N	WORK C	ENTER	JSN	
SHELL&SUPPORT	ING STR	UCTURE	N/A		3-328-	0-A	SS01			
EQUIPMENT STATUS		PROBLEM ST	TATUS	CATEGOR	Y				EOC	;
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMP 4. TNC - TEST NOT COMPLE 5. NOB - EQUIPMENT NOT O	TED	1. C - CORRECTI 2. A - AWAITING 3. T - AWAITING 4. S - SHIPS FOR *UNCORRECTED	PARTS TECH ASSIST* RCE*	2. Z-E	ERSONNEL SAFETY QUIPMENT SAFETY ARDWARE	4. D – [ 5. L - Li		3		.9
	N TO BE ACCO		STATUS		CAUSE	1.	S/F BACKLOG/OPER	RATIONAL PRIORI	ΓY	
2. IMA 3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 2. PR 3. PR 4. DU	MEDIATELY  IOR TO NEXT UNDERVI  IOR TO NEXT DEPLOY  RING POST DEPLOYM  AILABILITY  PEB02	VAY 2	OPERATIONAL     NON-OPERATIONAL     REDUCED CAPABILITY     NOT APPLICABLE	2. MANUFAC 3. LACK OF I 4. COMMUNI 5. INADEQUA 6. INADEQUA	L ENVIROMENT TURERINISTALLATION DEI TURENISTALLATION DEI TUNOWLEDGE OR SKILL CATION PROBLEMS ITE INSTRUCTION/PROCEI TE INSTRUCTION/PROCEI TO THE INSTRUCTION TO THE	3. 4. 5. 6. 7. 8.	LACK OF MATERIAL NO FORMAL TRAIN FORMAL TRAINING INADEQUATE SCHE LACK OF FACILITIE NOT AUTHORIZED I FOR S/F OVERHAUL LACK OF TECHNIC/ OTHER OR NO	NG ON THIS EQUI INADEQUATE THI IOL PRACTICAL TI S/CAPABILITIES FO S/F ACCOMPLI LOR AVAILABILITY	S EQUIPMENT RAINING SHMENT / WORK LIST	
MAN HRS EXPENDED  0001	M	AN HRS REMA	INING	COMPLETE	ACTION TAKE	N	S/F MANHO	URS	PRIO	RITY
1. SERIOUS – CORRECT AS SOON 2. SERIOUS – SUSPENSION OF EQ 3. SERIOUS – WAIVER OF EQUIPM 4. SAFETY ITEM – MINOR 5. COMBUSTIBLE MATERIAL	UIPMENT/SYSTEM ENT/SYSTEM	) M/SPACE REQUIREI	2. M 3. M 4. C 5. M 6. M	MAINTENANCE ACTION MAINTENANCE ACTION CANCELLED – DEFEI MAINTENANCE ACTION NONE OF THE ABOV	ON COMPLETED: PAR ON COMPLETED: PAR ON COMPLETED: NO RRAL WILL BE REMOV ON COMPLETED: 2-M E, DESCRIBE IN REM	RTS NOT DRAWN PARTS REQUIREI /ED FROM CSMP I CAPABILITY UTII ARKS/DESCRIPTION	FROM SUPPLY D LIZED DN SECTION	3 4	. MANDATOR 2. ESSENTIAL 3. HIGHLY DE 4. DESIRABLE	SIRABLE 4
DISCREPANCY DE SCRIPTIO	ON: PER S	SEMATIIN	NSPECTION	OF SUPP	LY STRM (	3-328-0- <i>A</i>	A), THE S	SHELL I	LAGGIN	IG
WAS FOUND SAT	URATED	AND THE	SHELL ST	IFFENERS	(S11-S15),	STBDSII	DE, FR 3	30-366	WERE	
FOUND CORRODE	ED.									
RECOMMENDED REPAIRS										
ACCOMPLISH UT	SUBVEY	OF AREA	AS INDICAT	ED ON SK	ETCH PRO	VIDED T	O THE C	HIFF F	NGINE	ER .
					LIGHTIC	VIDED I	<u> </u>	/IIILI L	.INOIINE	
AND PORT ENGIN	EER (AP	PRUX. 45	READINGS	<b>)</b>						
SSPORT C221 POC	: J BRUC	KNFR (757	7) 396-4001	TPOC: D	SMITH /HUG	HES CDI				
CSMP SUMMARY			, , , , , , , , , , , , , , , , , , , ,					TECT # 1	MDC 110	2/1
	Y STRM (	3-328-0-A)	STIFFENERS	S AND SHE	L CORROD	ED			MRC 110	2/1
ROOT CAUSE/AMPLIFICATI	on H1						ST	EP#	1.a	
SYSTEM LEVEL IMPACT										
PART NO.		NOMEN	CLATURE	QTY		NSN			cc	OST
FIRST CONTACT		DA	TE :	SECOND CONT	ACT	RATE   PH	IONE			
LEAC		SI	K2	DEBOL1		SK1				
BLUEPRINTS, TECH MANUA	ALS, PLANS, I	ETC.							ON BO	
ASSESSOR / ACT / TECH ID# SPORT 221/ D. SMITH/ HUGHES, CDI					LOGIS		TSP			



SUPPLY ISSUE STORE ROOM

USS KLARKING FF6 42

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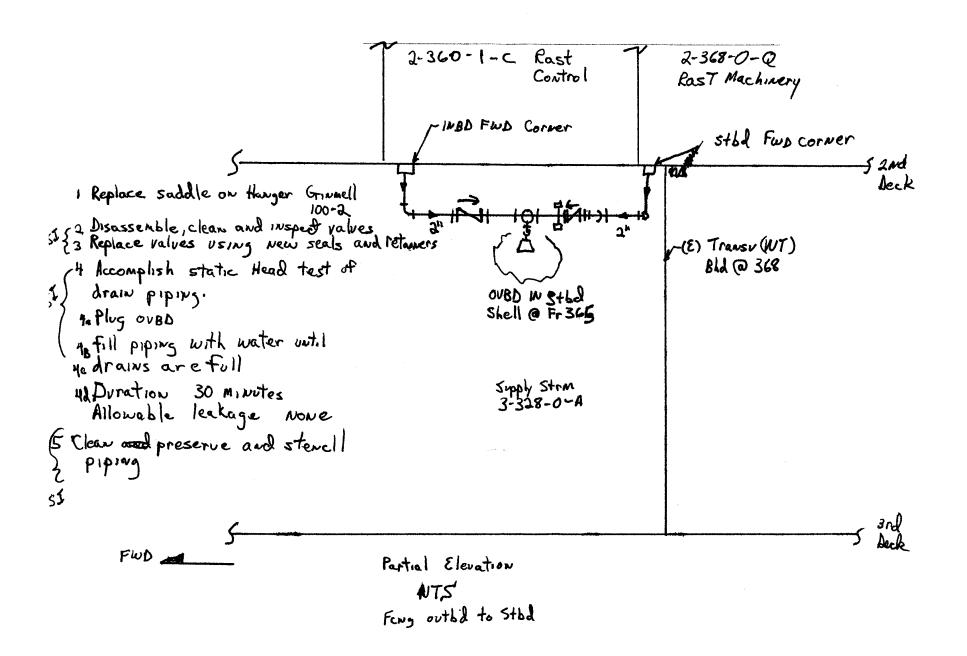
SUPPLY ISSUE STORE PASM

USS KLAKRIOS FF6 42

FILAROSSICIAPOSSI QEOSTOSPO HIMIO

ITEM NUMBER						SHIP	.AKRING	FFG A	2				
SYSTEM		ESW	VBS	EIC	APL	OOO KE	ARRINO	110 4	RIC				
HULL STRUCTUR	E		11021	A301	N/A								
EQUIPMENT NAME			IDENT/SEF	RIAL	LOCATION	N	WORK CEN	NTER	JSN				
SHELL&SUPPORT	ING STR	UCTURE	N/A		3-328-0	)-A	SS01						
EQUIPMENT STATUS		PROBLEM ST	TATUS	CATEGORY	l .		l.		EOC				
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMP 4. TNC - TEST NOT COMPLE 5. NOB - EQUIPMENT NOT O	TED	1. C - CORRECTE 2. A - AWAITING I 3. T - AWAITING I 4. S - SHIPS FOR *UNCORRECTED	PARTS TECH ASSIST* CE*		RSONNEL SAFETY  JIPMENT SAFETY  RDWARE	4. D – D 5. L - LII		3	.9				
	N TO BE ACC		STATUS		CAUSE	1. 3	FERRAL REAS						
2. IMA 3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 4. DU 4. DU 4. AV.	MEDIATELY  IOR TO NEXT UNDER!  IOR TO NEXT DEPLOY  RING POST DEPLOYN  ALLABILITY  PEB02	VAY 2 MENT 3	OPERATIONAL     NON-OPERATIONAL     REDUCED CAPABILITY     NOT APPLICABLE	2. MANUFACTU 3. LACK OF KN 4. COMMUNICA 5. INADEQUATI 6. INADEQUATI	AR AND TEAR	ECTS 3.   4.   5.   1	LACK OF MATERIAL NO FORMAL TRAINING FORMAL TRAINING INA INADEQUATE SCHOOL LACK OF FACILITIES/C, NOT AUTHORIZED FO S FOR S/F OVERHAUL OF LACK OF TECHNICAL D OTHER OR NOT A	DEQUATE THIS PRACTICAL TRA PABILITIES S/F ACCOMPLISH R AVAILABILITY DOCUMENTATION	EQUIPMENT NINING HMENT WORK LIST				
MAN HRS EXPENDED  0001	М	AN HRS REMAI 1	INING	COMPLETED	ACTION TAKEN	1	S/F MANHOUF	RS	PRIORITY				
SAI  SERIOUS – CORRECT AS SOON SERIOUS – SUSPENSION OF EC SERIOUS – WAIVER OF EQUIPM ASAFETY ITEM – MINOR COMBUSTIBLE MATERIAL	UIPMENT/SYSTEI ENT/SYSTEM	<b>)</b> WSPACE REQUIRED	2. M 3. M 4. C 5. M 6. M	MAINTENANCE ACTION MAINTENANCE ACTION MAINTENANCE ACTION CANCELLED – DEFERF MAINTENANCE ACTION VONE OF THE ABOVE,	N COMPLETED: PAR N COMPLETED: NO RAL WILL BE REMOV N COMPLETED: 2-M DESCRIBE IN REMA	TS NOT DRAWN F PARTS REQUIRED ED FROM CSMP CAPABILITY UTIL IRKS/DESCRIPTIO	ROM SUPPLY  IZED  N SECTION	2. 3. 4.	MANDATORY ESSENTIAL HIGHLY DESIRABLE DESIRABLE				
DISCREPANCY DE SCRIPTI	ON: PER S	SEMATIIN	ISPECTION	I OF SUPPL	Y STRM (	3-328-0-A	), THE SH	IELL L	AGGING				
WAS FOUND SAT	URATED	AND THE	SHELL ST	IFFENERS(	(S11-S15),	STBDSIC	DE, FR 33	0-366 V	VERE				
FOUND CORRODE	ĒD.												
RECOMMENDED REPAIRS													
REMOVE APPRO	VINATEL	V 200 SE (	OE CHELL I	INCLIL ATIO	N DEMON	E CORR	OCION AI	ND DDI	ECEDVE				
SHELL. INSTALL	SHELL IN	SULATIO	N. PAINT IN	ISULATION	то матс	H SURRO	DUNDING	AREA	S.				
SSPORT C221 POC	· I BBIIC	WNED /757	7) 206-4001	TDOC: D S	MITU /UIIG	HES CUI							
CSMP SUMMARY	, J. BROC	MILIX (131	) 390-4001,	1100. D. 3									
	Y STRM (	3-328-0-A)	STIFFENERS	S AND SHEL	L CORROD	ED			IRC 1102/1				
ROOT CAUSE/AMPLIFICATI	on H1						STE	P #	1.a				
SYSTEM LEVEL IMPACT													
PART NO.		NOMENO	CLATURE	QTY		NSN			COST				
								+					
EIDET CONTACT		1 5.	TE 1	SECOND CONT.	CT.	DATE   P.	ONE						
FIRST CONTACT  LEAC	Н		TE 5	SECOND CONTAI DEBOLT	<b>61</b>	SK1	ONE						
BLUEPRINTS, TECH MANUA	ALS, PLANS,	ETC.	•			'			ON BOARD YES NO				
ASSESSOR / ACT / TECH ID# SPORT 221/ D. SMITH/ HUGHES, CDI  TD TL LOGISTICIAN													

ITEM NUMBER									SHIP						
									US	S KL	AKRI	NG F	FG 42		
DECK DRAIN		F	SWBS <b>52</b>	611	A3	; 301		N/A						RIC	
EQUIPMENT NAME				IDENT/SE	RIAL		L	OCATION	l		WOR	K CENTE	R	JSN	
DECK DRAIN PIPI	NG			N/A			3	-328-0	<b>-</b> A		SSC	1			
EQUIPMENT STATUS		PROBLEM	STATU	S		CATEGORY					ı			EO	С
1. SAT - SATISFACTORY 2. UNSAT - UNSATISFACTORY 3. TNA - TEST NOT ATTEMP 4. TNC - TEST NOT COMPLE 5. NOB - EQUIPMENT NOT O	TED	1. C - CORRE 2. A - AWAITI 3. T - AWAITI 4. S - SHIPS *UNCORREC	NG PARTS NG TECH : FORCE*	ASSIST*		<ol> <li>S – PER:</li> <li>Z – EQU</li> <li>H – HAR</li> </ol>	IPMENT	SAFETY		4. D – D0		(3			.9
	N TO BE ACC	OMPLISHED		STATUS RATIONAL			CAL			1. S	FERRAL /F BACKLOG	OPERATIONA	L PRIORITY		
3. TECH ASSIST 4. SHIP'S FORCE 5. SFWL 1 3. PR 4. DU AV. 12	2. IMA					INADEQUATE     NORMAL WEA     NOT APPLICA	RER/INSTA WLEDGE FION PROF INSTRUC DESIGN AR AND TE BLE	ALLATION DEFE OR SKILL BLEMS TION/PROCEDI	7	3. N 4. F 5. II 6. L 7. N 8. F 9. L 0.	ORMAL TRAI NADEQUATE ACK OF FAC IOT AUTHORI OR S/F OVEF ACK OF TECI OTHER (	RAINING ON T NING INADEQ SCHOOL PRAI LITIES/CAPAB ZED FO S/F AI HAUL OR AV/ HNICAL DOCU IR NOT APPLI	JATE THIS E CTICAL TRAI ILITIES CCOMPLISHI AILABILITY W MENTATION	EQUIPMENT INING MENT /ORK LIST	
MAN HRS EXPENDED MAN HRS REMAINING COMPLETED ACTION TAKEN S/F MANHOURS PRIORITY  0001  1															
SAI  SERIOUS - CORRECT AS SOON SERIOUS - SUSPENSION OF EC SERIOUS - WAIVER OF EQUIPM A SAFETY ITEM - MINOR COMBUSTIBLE MATERIAL	UIPMENT/SYSTE		IRED	2. 3. 4. 5.	MAINTE MAINTE CANCEL MAINTE	NANCE ACTION NANCE ACTION NANCE ACTION LED – DEFERR NANCE ACTION OF THE ABOVE, I	COMPL COMPL AL WILL COMPL	ETED: PART ETED: NO P BE REMOVI ETED: 2-M	S NOT D ARTS RE ED FROM CAPABIL	RAWN F QUIRED CSMP TY UTILI	ROM SUPF ZED		2. 3.	MANDATO ESSENTIA HIGHLY D DESIRABL	AL DESIRABLE
DISCREPANCY DE SCRIPTI	ON: PER S	SEMAT I	INSP	ECTIO	N OF	SUPPL	Y S	TRM (3	3-328	-0-A	), THE	DEC	K DR	RAIN	PIPING
FROM RAST CON	TROL RO	OOM (2-3	60-1-	C) AND	RAS	ST MAC	HINE	ERY R	OON	l (2-3	868-0-	Q) IS	LEA	KING	AT FR
365 AND DAMAGI	NG THE	SHELL L	.AGG	ING AN	ID C	ORRODI	NG	THE S	HEL	L AN	ID ST	RUCT	URE		
RECOMMENDED REPAIRS															
REMOVE THE PIP	PE HANG	ER SAD	DLE A	AND TH	IE (2	) 2" IPS	CHE	ECK V	ALVI	ES A	T FR	366 IN	THE	OVE	ID.
INSTALL A NEW H	IANGER.	OVERH	AUL	CHECK	VAI	LVES AN	ID R	EINST	ΓALL	WIT	H NE	W SE	ALS A	AND	
RETAINERS. PLU	G THE O	VBD AN	D TE	ST REP	AIR	ED PIPIN	IG. /	ALLOV	NAB	LE L	EAK	AGE:	NON	E	
SSPORT C221 POC	: J. BRUC	CKNER (7	57) 39	96-4001,	TPO	DC: D. SI	MITH	I /HUGI	HES,	CDI					
CSMP SUMMARY SUPPI	Y STRM (	(3-328-0-4	A) DF(	CK DRAI	N PII	PING I FA	KIN	G				TES	T # M	RC 11	02/1
ROOT CAUSE/AMPLIFICATI	114	(0 020 0 7	<u>,, , , , , , , , , , , , , , , , , , ,</u>	<u> </u>				<u> </u>				STEP	# 1	1.a	
SYSTEM LEVEL IMPACT															
PART NO.		NOM	ENCLAT	URE		QTY				NSN				c	COST
FIRST CONTACT			RATE			ND CONTAC	т		RATE	PH	ONE				
BLUEPRINTS, TECH MANUA			SK2		D	EBOLT			SK1					ONE	BOARD
									1					YI	ES NO
ASSESSOR / ACT / TECH ID	ESSOR / ACT / TECH ID# SPORT 221/ D. SMITH/ HUGHES, CDI TD TL LOGISTICIAN TSP														



FFG-42 Combined Supply Department Storeroom 3-328-0-A



Heavy surface corrosion at a stiffener weep hole, FR 350



Deck drain piping. Note corrosion in way of several joints and hanger.

FFG-42 Combined Supply Department Storeroom 3-328-0-A



Arrow indicates leaking deck drain piping. Lagging removed for evaluation



Lagging retaining buttons are completely corroded away, indicating long-term saturation.

FFG-42 Combined Supply Department Storeroom 3-328-0-A



Lagging removed to ensure that overboard piping is not leaking. Corrosion starts on the next stringer down, in line with longitudinal pipe run.

### SHELL CONDITION ASSESSMENT SURVEY AUXILIARY PROPULSION ROOM (4-100-0-E)

- 1. No 2K's submitted.
- 2. Shipyard has completed cleaning and painting bilge areas and is accomplishing UT's of suspect areas.

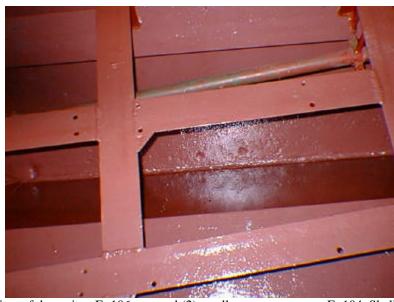
FFG-42 APU Machinery Room (4-100-0-E)



Deep pit in shell, Fr 106, port. Shell is ½" thick



Corrosion under APU control unit. Shipyard is investigating how to get to the area and UTing.



Additional view of deep pit at Fr 106 port and (2) smaller ones at approx. Fr 104. Shell is ½" thick.

# SHELL CONDITION ASSESSMENT SURVEY MISCELLANEOUS SPACES

1. No 2K's submitted.

FFG-42 Sonar Equipment Room 4-48-1-Q

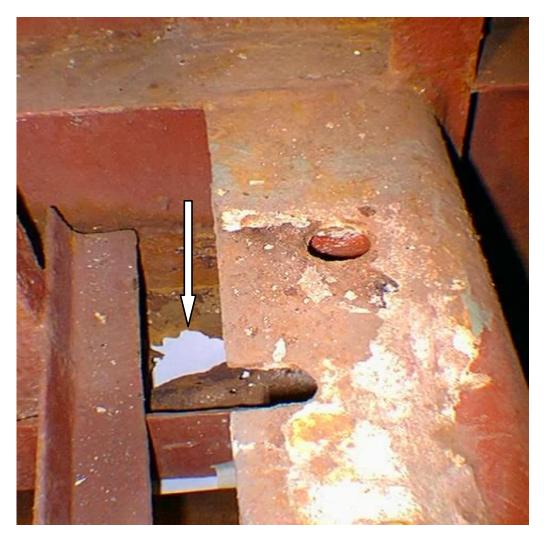


View of shell, stbd side Fr 49, 4<sup>th</sup> deck. Corrosion is typical of the class. Shipyard is replacing a stiffener and preserving the area



View of after bhd, showing corrosion in areas not accessible when equipment is installed.

FFG-42 Sonar Equipment Room 4-48-1-Q



Arrow indicates a hole in the web of the web of the stiffener. A sheet of paper is under the hole to help show it . Shipyard is going to replace 12' of stiffener.

FFG-42 Berthing & Dressing Space 3-100-0-L



Corrosion noted at the connection between the  $3^{\rm rd}$  deck and shell. Shipyard will clean and preserve as part of space rehab

ship_hull	location	efd	hsc	wcr_equip		rin
42	2-100-01-L 🗸	BERTHING & DRESSING SPACE (2-100-01-L)	64311E7300		XCOMPARTMNT	00EXZ
42	2-100-0-L	· · · · · · · · · · · · · · · · · · ·	64511E7100		XCOMPARTMNT	00EXY
42	2-100-1-L		64511E7500		XCOMPARTMNT	
42		PASSAGEWAY (2-100-4-L)	64511E7700		XCOMPARTMNT	
42			64411E7900		XCOMPARTMNT	
42	2-113-0-L	LOCKER, CLEANING GEAR	67111E8100		XCOMPARTMNT	
42	2-140-01-L 🗸	PASSAGEWAY (2-140-01-L)	64511E9100		XCOMPARTMNT	
42	2-140-0-Q	BARBER SHOP (2-140-0-Q)	65411E9300		XCOMPARTMNT	
42	2-140-1-Q V	POST OFFICE (2-140-1-Q)	66111E9500		XCOMPARTMNT	
42	2-140-2-Q 🗸	VAULT, REGISTERED PUBLICATIONS (2-140-2-Q)	67111E9700		XCOMPARTMNT	
42	2-140-4-Q V	SHIP STORE (2-140-4-Q)	65411E9900		XCOMPARTMNT	
42	2-152-0-L	DRESSING SPACE (2-152-0-L)	64211E9B00		XCOMPARTMNT	
42	2-152-2-L 🗸	MEDICAL TREATMENT ROOM (2-152-2-L)	65211E9D00		XCOMPARTMNT	
42	2-154-0-L	LOCKER, CLEANING GEAR Z-161-2-	67111E9H00		XCOMPARTMNT	
42	2-154-0-L V	SANITARY SPACE (2-154-0-L)	64411E9F00		XCOMPARTMNT	
42	2-168-2-L V	LOUNGE, CPO (2-168-2-L)	64511EA100		XCOMPARTMNT	
42	2-171-0-L 🗸	BERTHING SPACE 1 (2-171-0-L)	64211EA300		XCOMPARTMNT	
42	2-171-1-L	BERTHING SPACE 2 (2-171-1-L)	64211EA500		XCOMPARTMNT	
42	2-171-3-L 🗸	BERTHING SPACE 3 (2-171-3-L)	§4211EA700		XCOMPARTMNT	
42	2-177-2-T 🗸	TRUNK, VENT (2-177-2-T)	12321EA900		XCOMPARTMNT	
42	2-180-0-Q	GALLEY (2-180-0-Q)	65111EB100		XCOMPARTMNT	
42	2-180-0-Q 🗸	LOCKER, CG AND DIESEL EXHAUST ENCLOSURE	67111EB300		XCOMPARTMNT	
42	2-180-1-L	PASSAGEWAY (2-180-1-L)	64511EB500		XCOMPARTMNT	
42	2-180-2-L 🗸	MESSROOM, CPO (2-180-2-L)	64221EB700		XCOMPARTMNT	
42	2-180-4-L 🗸	PASSAGEWAY (2-180-4-L)	64511EB900		XCOMPARTMNT	
42	2-187-2-T	TRUNK, ACCESS (2-187-2-T)	12321EBB00		XCOMPARTMNT	
42	2-188-1-Q 🗸	GALLEY ANNEX (2-188-1-Q)	65111EBD00		XCOMPARTMNT	
42	2-20-0-A	STOREROOM, BOSN 2 (2-20-0-A)	67211E3100		XCOMPARTMNT	
42	2-203-2-Q 🗸	SCULLERY (2-203-2-Q)	65111EC100		XCOMPARTMNT	
42	2-208-2-T 🗸	TRUNK, ESCAPE (2-208-2-T)	12321EC300		XCOMPARTMNT	
42		DUMBWAITER (2-209-1-Q)	57211EC500		XCOMPARTMNT	
42	2-212-01-L	PASSAGEWAY (2-212-01-L)	64511EC700		XCOMPARTMNT	
42	2-212-0-L	MESSROOM, CREW (2-212-0-L)	64321EC900	ļ	XCOMPARTMNT	
42	2-212-0-L	LOCKER, CLEANING GEAR 2-245-2-	67111EE300	<u> </u>	XCOMPARTMNT	J00EZN

			1	LYGOLADA DELANIE GOCZO
42		TRUNK, ESCAPE (2-212-2-T)	12321ECD00	XCOMPARTMNT 00EZG
42		AFFF STATION 2 (2-220-1-Q) # 1	66411ED100	XCOMPARTMNT 00EZH
42	2-223-1-T 🗸	TRUNK, ACCESS (2-223-1-T)	12321ED300	XCOMPARTMNT 00EZJ
42	2-225-1-A 🗸	PROPULSION REPAIR 5 (2-225-1-A)	66411ED500	XCOMPARTMNT 00EZK
42	2-237-1-Q 🗸	TRASH DISPOSAL ROOM (2-237-1-Q)	65611ED700	XCOMPARTMNT 00EZL
42	2-244-2-Q	FAN ROOM (2-244-2-Q)	66211EE100	XCOMPARTMNT 00EZM
42	2-250-0-L 🗸	PASSAGEWAY (2-250-0-L)	64511EE700	XCOMPARTMNT 00EZP
42	2-276-2-J	JP5 SERVICE TANK 2-276-2-J	12312N3101	XTANK003970 00EZQ
42	2-278-2-Q V	AFFF STATION 2 (2-278-2-Q)	66411EF300	XCOMPARTMNT 00EZR
42	2-292-01-C 🗸	CENTRAL CONTROL STATION (2-292-01-C)	66211EG100	XCOMPARTMNT 00EZS
42	2-292-0-L 🗸	PASSAGEWAY (2-292-0-L)	64511EG300	XCOMPARTMNT 00EZT
42	2-292-2-Q 🗸	WORKSHOP, GENERAL (2-292-2-Q)	66511EG500	XCOMPARTMNT 00EZU
42	2-301-1-T 🗸	TRUNK, ACCESS (2-301-1-T)	12321EH100	XCOMPARTMNT 00EZV
42	2-316-2-Q 🗸	ELECTRICAL SHOP&DEGAUSSING EQUIP RM (2-3)	66521EH300	XCOMPARTMNT 00EZW
42	2-32-0-Q	WINDLASS ROOM (2-32-0-Q)	66211E3300	XCOMPARTMNT 00EXJ
42	2-325-0-T	TRUNK, ESCAPE (2-325-0-T)	12321EJ100	XCOMPARTMNT 00EZX
42	2-328-0-Q V	CENTRAL OFFICE COMPLEX (2-328-0-Q)	66111EJ300	XCOMPARTMNT 00EZY
42	2-328-2-L 🗸	PASSAGEWAY (2-328-2-L)	64511EJ500	XCOMPARTMNT 00EZZ
42	2-328-4-T /	TRUNK, ACCESS (2-328-4-T)	12321EJ700	XCOMPARTMNT 00F0A
42	2-328-6-Q	SUPPLY SUPPORT CENTER (2-328-6-Q)	66111EJ900	XCOMPARTMNT 00F0B
42	2-344-2-A	AFT REPAIR 3 (2-344-2-A)	66411EK100	XCOMPARTMNT 00F6D
42	2-353-2-K 🗸	STOREROOM, GAS CYLINDER (2-353-2-K)	67211EK700	XCOMPARTMNT 00F6E
42	2-360-1-C \	RAST CONTROL STATION (2-360-1-C)	66211EL100	XCOMPARTMNT 00F6F
42	2-360-2-Q	AFF STATION 4 (2-360-2-Q) HOSE PUEH BUTTON STA.	66411EL300	XCOMPARTMNT 00F0C
42		TRUNK, ESCAPE (2-36-2-T)	12321E3500	XCOMPARTMNT 00EXK
42	2-363-2-L	WASH ROOM & WATER CLOSET (2-363-2-L)	64411EL500	XCOMPARTMNT 00F0D
42	2-368-01-L 1/	PASSAGEWAY & AFT BATTLE DRSG STA (2-368-01	64511EL700	XCOMPARTMNT 00F0E
42		HLCPTR HAUL DOWN & TRAV MCHRY ROOM (2-36		XCOMPARTMNT 00F6G
42	2-368-1-A	STOREROOM, AVIATION 1 (2-368-1-A)	67211ELD00	XCOMPARTMNT 00F6H
42		FILTER CLEANING SHOP (2-368-2-Q)	66511ELM00	XCOMPARTMNT 00F6J
42	2-376-2-A	STOREROOM, MEDICAL (2-376-2-A)	67211ELR00	XCOMPARTMNT 00F6K
42		HELICOPTER FUELING ROOM (2-383-2-J)	66211EM100	XCOMPARTMNT 00F6L
42		TACTAS HANDLING & BT ROOM (2-388-2-Q)	66211EM500	XCOMPARTMNT 00F6M
42	2-390-1-A	STOREROOM, AVIATION 2 (2-390-1-A)	67211EMB00	XCOMPARTMNT 00F6N
42		NIXIE ROOM (2-397-1-Q)	66211EMK00	XCOMPARTMNT 00F6P

42	10 40 4 A	Invocace poor			
42	2-40-1-A	BAGGAGE ROOM, CREW & CPO (2-40-1-A)	67211E4100	XCOMPARTMN*	T 00EXL
	2-40-2-L	PASSAGEWAY (2-40-2-L)	64511E4300	XCOMPARTMN*	T 00EXM
42	2-407-0-A 🗸	STOREROOM, AVIATION 3 (2-407-0-A)	67211EN300	XCOMPARTMN1	T 00F6Q
42	2-44-2-A	BAGGAGE ROOM, OFFICERS (2-44-2-A) THERE	67211E4500	XCOMPARTMN	00EXN
42		ARMORY (2-48-1-A)	76311E4700	XCOMPARTMN	
42		STOREROOM, DECK GEAR (2-48-2-A)	67211E4900	XCOMPARTMN	T 00EXQ
42		FWD REPAIR 2 (2-55-1-A)	66411E4B00	XCOMPARTMNT	
42		AFFF STATION 1 (2-60-2-Q)	66411E5100	XCOMPARTMNT	
42		PASSAGEWAY (2-64-0-L)	64511E5300	XCOMPARTMNT	
42	2-79-0-C 🗸	IC & GYRO ROOM & ELECTRONICS SHOP (2-79-0-	Ø6521E5500	XCOMPARTMNT	
42	2-79-1-A	STOREROOM, ATHLETIC GEAR (2-79-1-A)	67211E5700	XCOMPARTMNT	
42	2-84-1-T	TRUNK, ESCAPE (2-84-1-T)	12321E6100	XCOMPARTMNT	
42		TRUNK, ACCESS (2-92-2-T)	12321E6300	XCOMPARTMNT	
42		STOREROOM, BOSN 1 (2-Z-0-A)	67211E1100	XCOMPARTMNT	
42		BERTHING & DRESSING SPACE (3-100-0-L)	64311F7100	XCOMPARTMNT	
42		LOUNGE, RECREATION (3-100-1-L)	64511F7300	XCOMPARTMNT	
42		LOCKER, CLEANING GEAR	67111F7700	XCOMPARTMNT	
42	3-113-0-L	SANITARY SPACE (3-113-0-L)	64411F7500	XCOMPARTMNT	
42		TRUNK, ACCESS (3-119-0-T)	12321F7900	XCOMPARTMNT	
42	3-140-0-L	SANITARY SPACE (3-140-0-L)	64411F9100	XCOMPARTMNT	
42		LOCKER, CLEANING GEAR	67111F9500	XCOMPARTMNT	
42		PASSAGEWAY (3-140-1-L)	64511F9300	XCOMPARTMNT	
42		LOUNGE, RECREATION (3-140-2-L)	64511F9700	XCOMPARTMNT	
42	3-144-0-L 🗸	BERTHING & DRESSING SPACE (3-144-0-L)	64311F9900	XCOMPARTMNT	
42	3-154-1-Q	PIPING SPACE (3-154-1-Q)	66211F9B00	XCOMPARTMNT	
42	3-156-2-Q	PIPING SPACE (3-156-2-Q)	66211F9D00	XCOMPARTMNT	
42	3-180-0-A		63811FB100	XCOMPARTMNT	
42	3-180-1-A	OTODEDOOM OUNT TO THE	63811FB300	XCOMPARTMNT	
42		014/1701/07/17	66311FB500	XCOMPARTMNT	L_ I
42	3-180-3-A		63811FB700	XCOMPARTMNT	
42	3-180-5-A		67211FB900	XCOMPARTMNT	
42	3-188-0-L		64511FBB00	XCOMPARTMNT	
42		OTODEDOGIA OLIVERANIA	67211FBD00	XCOMPARTMNT	
42	3-200-2-E	TIEVATOR MAGUINITEN ( = 5 = 1	66211FC100		00F1L
42	3-20-0-Q	2//4/2/4	12321N1111		00F1M
		0.4.000 00 00 00		VACID009990	טטרטר

3-140-1-A SANTTARY SPACE, DEEP SINK

Г	42	3-236-1-F	LUBE OIL STORAGE TANK 3-236-1-F	12315N1104	XTANK003928	00F1N
-				12315N1105	,	00F1P
}	42		2022 0:2 0:0:0:02 :: ::::::::::::::::::	12311N3101		00F1Q
ŀ	42		, 622 612 62.11162 // 6 2.6 1.	12311N3101	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	00F1R
}	42		TRUNK, ACCESS (3-250-1-T)	12311N3102 12321FE500	XCOMPARTMNT	
}	42		TRUNK, ACCESS (3-250-1-1)	12321FE700	XCOMPARTMNT	
}	42		LUBE OIL STORAGE TANK 3-272-2-F	12315N1107		00F1U
}			LUBE OIL STORAGE TANK 3-272-2-F	12315N1108		00F1V
-	42		LUBE OIL STORAGE TANK 3-276-1-F	12315N1109	XTANK003901	00F1W
ŀ			LUBE OIL STORAGE TANK 3-270-2-1	12315N1110	XTANK003898	00F1X
}			LUBE OIL STORAGE TANK 3-286-2-F	12315N1111		00F1Y
_	42			66211FG500	XCOMPARTMNT	
ļ			FUEL OIL SERVICE TANK 3-292-4-F	12311N3103		00F2A
-	42		FUEL OIL SERVICE TANK 3-292-4-F	12311N3104	XTANK003942	00F2B
4	42		LUBE OIL STORAGE TANK 3-292-8-F	12315N1112	XTANK003897	00F2C
-	42		JP5 SERVICE TANK 3-316-1-J (/A)	12312N3102	XTANK003963	00F2D
-	42			67211F3300	XCOMPARTMNT	
-	42		JP5 SERVICE TANK 3-322-1-J (18)	12312N3103		00F2E
-	42			67212F3600	XCOMPARTMNT	
-	42		TRUNK, ESCAPE (3-325-0-T)	12321FJ300	XCOMPARTMNT	
-	42		STOREROOM, COMBINED SUPPLY DEPT (3-328-0-		XCOMPARTMNT	
-	42		TRUNK, ESCAPE (3-36-2-T)	12321F3700	XCOMPARTMNT	
ŀ	42			67211F4100	XCOMPARTMNT	
-	42		0.0	64511F4300	XCOMPARTMNT	
-	42		17100710210711 (0 10 0 2)	67211F4700	XCOMPARTMNT	
-	42	3-53-2-A	STOREROOM, CLOTHING & SMALL STORES (3-53-		XCOMPARTMNT	
ŀ	42	3-56-0-A		67211F4D00	XCOMPARTMNT	
}	42		MAGAZINE, MK13 GMLS (3-64-0-M)	72111F5100	XCOMPARTMNT	
-	42		ACCESSIBLE VOID 3-64-1-V	12321N1101	XVOID003946	00F0P
ŀ	42		ACCESSIBLE VOID 3-64-2-V	12321N1102	XVOID003910	00F0Q
ŀ	42		AC MACHINERY ROOM (3-84-0-E)	66211F6100	XCOMPARTMNT	00F0R
}	42		TRUNK, ESCAPE (3-84-1-T)	12321F6300	XCOMPARTMNT	
-	42		APU MACHINERY ROOM (4-100-0-E)	66211G7100	XCOMPARTMNT	
ŀ	42		LAUNDRY (4-140-0-Q)	65511G9100	XCOMPARTMNT	00F2U
ŀ	42		PASSAGEWAY (4-140-1-L)	64511G9300	XCOMPARTMNT	
L						

Add Add

3-48-2-A MEDICAL STRM 3-272-1-F L.O.STORAGETK XCOMPARTMAT

42	4-140-2-A	STOREROOM, LAUNDRY 2 (4-140-2-A)	67211G9400	XCOMPARTMNT	00F9X
42		STOREROOM, LAUNDRY (4-140-3-A)	67211G9500	XCOMPARTMNT	
42		LOCKER, CLEANING GEAR	67111G9900	XCOMPARTMNT	
42		TRUNK, ACCESS (4-144-1-T)	12321G9700	XCOMPARTMNT	
42		STOREROOM, CHEM WARFARE DEF EQUIP (4-152	67211G9B00	XCOMPARTMNT	00F2Z
42		SEWAGE COLLECTING HOLDING & BLR ROOM (4-		XCOMPARTMNT	00F3A
42		CHT TANK 4-170-0-W	12319N9101	XTANK003944	00F3B
42	4-172-1-E	FIRE PUMP ROOM (4-172-1-E)	66211GA500	XCOMPARTMNT	00F3C
42	4-20-0-W	CHAIN LOCKER SUMP 4-20-0-W	12321N1112	XVOID003939	00F2J
42	4-203-0-T	TRUNK, ELEVATOR (4-203-0-T)	12321GC100	XCOMPARTMNT	00F3D
42	4-208-2-T	TRUNK, ESCAPE (4-208-2-T)	12321GC300	XCOMPARTMNT	00F3E
42	4-208-4-F	LUBE OIL STORAGE TANK 4-208-4-F	12315N1113	XTANK003914	00F3F
42	4-212-2-T	TRUNK, ESCAPE (4-212-2-T)	12321GC700	XCOMPARTMNT	
42	4-27-0-V	ACCESSIBLE VOID 4-27-0-V	12321N1103	XVOID003913	00F2K
42	4-32-0-Q	SONAR EQUIPMENT ROOM (4-32-0-Q)	66311G3500	XCOMPARTMNT	00F2L
42	4-48-1-Q	SONAR COOLING EQUIPMENT ROOM (4-48-1-Q)	66211G4100	XCOMPARTMNT	
42	4-48-2-L	PASSAGEWAY (4-48-2-L)	64511G4300	XCOMPARTMNT	00F2N
42	4-56-0-M	MAGAZINE, SMALL ARMS (4-56-0-M)	71311G4500	XCOMPARTMNT	00F2P
42	4-56-2-A	STOREROOM, DECK GEAR (4-56-2-A)	67211G4700	XCOMPARTMNT	
42	4-64-0-Q	MAGAZINE, SERVICE ROOM&N2 CHARGING STA (	72111G5100	XCOMPARTMNT	00F2R
42	4-77-0-Q	PLENUM CHAMBER (4-77-0-Q)	12321G5300	XCOMPARTMNT	
42	4-H-0-V	ACCESSIBLE VOID 4-H-0-V	12321N1104	XVOID003912	00F2H
42	5.5-116-0-V	INACCESSIBLE VOID 5.5-116-0-V	12321N3101	XVOID003973	00F7U
42	5-100-1-W	APU WELL 1 5-100-1-W	12321N1109	XVOID003908	00F3Q
42	5-100-2-W	APU WELL 2 5-100-2-W	12321N1110	XVOID003926	00F3R
42	5-100-3-F	FUEL OIL STORAGE TANK 5-100-3-F	12311N1102	XTANK003911	00F3S
42	5-100-4-F	FUEL OIL STORAGE TANK 5-100-4-F	12311N1103	XTANK003931	00F3T
42	5-116-0-W	SALT WATER BALLAST TANK 5-116-0-W	12316N1101	XTANK003934	00F3U
42		FUEL OIL STORAGE TANK 5-116-1-F	12311N1104	XTANK003917	00F3V
42	5-116-2-F	FUEL OIL STORAGE TANK 5-116-2-F	12311N1105	XTANK003924	00F3W
42	5-132-0-F	CONTAMINATED OIL TANK 5-132-0-F	12317N4108	XTANK003938	00F3X
42	5-137-1-T	UNDERWATER LOG TRUNK 5-137-1-T	12321N2101	XVOID003921	00F3Y
42	5-140-1 <b>-</b> F	FUEL OIL STORAGE TANK 5-140-1-F	12311N1106	XTANK003937	00F3Z
42	5-140-2 <b>-</b> F	FUEL OIL STORAGE TANK 5-140-2-F	12311N1107	XTANK003903	00F4A
42	5-164-0-F	CONTAMINATED OIL TANK 5-164-0-F	12317N4102	XTANK003936	00F4B

42	5-164-1-W	WASTE STORAGE TANK 5-164-1-W	12319N9109	XTANK003935	00F4C
42	5-164-2-F	FUEL OIL STORAGE TANK 5-164-2-F	12311N1108	, , , , , , , , , , , , , , , , , , , ,	00F4D
42	5-164-3-F	FUEL OIL STORAGE TANK 5-164-3-F	12311N1109	XTANK003916	00F4E
42	5-170-0-F	CONTAMINATED OIL TANK 5-170-0-F	12317N4103	, , , , , , , , , , , , , , , , , , , ,	00F4F
42	5-180-01-E	SSDG ENCLOSURE 1 (5-180-01-E)	66211HB300	XCOMPARTMNT	
42	5-180-0-E	AUX MACHINERY ROOM 1 (5-180-0-E)	66211HB100	XCOMPARTMNT	
42	5-183-2-F	TANK, FSS STORAGE (5-183-2-F)	56511HB500	XCOMPARTMNT	
42	5-187-1-V	ACCESSIBLE VOID 5-187-1-V	12321N1105	XVOID003929	00F4K
42	5-188-1-F	TANK, FSS SUPPLY (5-188-1-F)	56511HB900	XCOMPARTMNT	
42	5-188-2-W	WASTE STORAGE TANK 5-188-2-W	12319N9110	, ,	00F4M
42	5-188-4-F	TANK, FSS HYDRAULIC OIL SUPPLY (5-188-4-F)	56511HBD00	XCOMPARTMNT	
42	5-192-2-F	CONTAMINATED OIL TANK 5-192-2-F	12317N4104	,	00F4P
42	5-197-1-F	TANK, FSS STORAGE (5-197-1-F)	56511HBH00	XCOMPARTMNT	
42	5-201-1-F	FUEL OIL SERVICE TANK 5-201-1-F	12311N3105	XTANK003967	00F4R
42	5-201-3-F	FUEL OIL SERVICE TANK 5-201-3-F	12311N3106	XTANK003968	00F4S
42	5-204-1-F	FUEL OIL SERVICE TANK 5-204-1-F	12311N3107	XTANK003969	00F4T
42	5-204-2-F	FUEL OIL SERVICE TANK 5-204-2-F	12311N3108	XTANK003915	00F4U
42	5-212-0-E	AUX MACHINERY ROOM 2 (5-212-0-E)	66211HC900	XCOMPARTMNT	00F4V
42	5-220-2-W	WASTE STORAGE TANK 5-220-2-W	12319N9111	XTANK003918	00F4W
42	5-222-1-F	CONTAMINATED OIL TANK 5-222-1-F	12317N4105	XTANK003919	00F4X
42	5-226-1-E	SSDG ENCLOSURE (5-226-1-E)	66211HD500	XCOMPARTMNT	
42	5-226-2-E	SSDG ENCLOSURE (5-226-2-E)	66211HD700	XCOMPARTMNT	
42	5-250-0-E	ENGINE ROOM (5-250-0-E)	66211HE100	XCOMPARTMNT	
42	5-250-1-F	FUEL OIL STORAGE TANK 5-250-1-F	12311N1110	XTANK003920	00F5B
42	5-250-2-F	FUEL OIL STORAGE TANK 5-250-2-F	12311N1111	XTANK003943	00F5C
42	5-270-0-F	TANK, CP PROP HYDRAULIC OIL SUMP (5-270-0-F)	24511HF100	XCOMPARTMNT	
42	5-276-0-F	LUBE OIL SUMP 5-276-0-F	12315N1118	XTANK003930	00F5E
42	5-290-2-F	CONTAMINATED OIL TANK 5-290-2-F	12317N4106	XTANK003933	00F5F
42	5-292-0-E	AUX MACHINERY ROOM 3 (5-292-0-E)	66211HG300	XCOMPARTMNT	
42	5-292-1-W	WASTE STORAGE TANK 5-292-1-W	12319N9112	XTANK003909	00F5H
42	5-292-2-W	POTABLE WATER TANK 5-292-2-W	12314N3101	XTANK003947	00F5J
42	5-292-3-W	POTABLE WATER TANK 5-292-3-W	12314N3102	XTANK003945	00F5K
42	5-308-1-W	POTABLE WATER TANK 5-308-1-W	12314N3103	XTANK003959	00F5L
42	5-308-2-W	POTABLE WATER TANK 5-308-2-W	12314N3104	XTANK003960	00F5M
42	5-32-0-W	SALT WATER BALLAST TANK 5-32-0-W	12316N1102	XTANK003961	00F3J

42	5-321-1-F	CONTAMINATED OIL TANK 5-321-1-F	12317N4107		00F5N
42	5-328-0-J	JP5 STORAGE TANK 5-328-0-J	12312N1101		00F5P
42	5-328-1-W	SALT WATER BALLAST TANK 5-328-1-W	12316N1103	XTANK003941	00F5Q
42	5-328-2-W	SALT WATER BALLAST TANK 5-328-2-W	12316N1104	XTANK003951	00F5R
42	5-344-0-J	JP5 STORAGE TANK 5-344-0-J	12312N1102	XTANK003953	00F5S
42	5-368-01-E	STEERING GEAR ROOM (5-368-01-E)	66211HL300	XCOMPARTMNT	00F5U
42	5-368-0-V	ACCESSIBLE VOID 5-368-0-V	12321N1106	XVOID003955	00F5T
42	5-376-1-A	STOREROOM, BOSN 3 (5-376-1-A)	67211HL500	XCOMPARTMNT	00F9W
42	5-386-0-V	VOID, INACCESSIBLE (5-386-0-V)	12321HM100	XCOMPARTMNT	00F5V
42	5-390-1-A	STOREROOM, DECK GEAR (5-390-1-A)	67211HM300	XCOMPARTMNT	00F5W
42	5-392-0-V	ACCESSIBLE VOID 5-392-0-V	12321N1108	XVOID003948	00F5X
42	5-51-0-Q	EDUCTOR ROOM (5-51-0-Q)	66211H4100	XCOMPARTMNT	00F3K
42	5-56-0-F	FUEL OIL STORAGE TANK 5-56-0-F	12311N1112	XTANK003905	00F3L
42	5-64-0-F	FUEL OIL STORAGE TANK 5-64-0-F	12311N1113	XTANK003950	00F3M
42	5-84-1-F	FUEL OIL STORAGE TANK 5-84-1-F	12311N1114	XTANK003952	00F3N
42	5-84-2-F	FUEL OIL STORAGE TANK 5-84-2-F	12311N1115	XTANK003954	00F3P
42	5-FF-0-V	VOID, INACCESSIBLE (5-FF-0-V)	12321H1100	XCOMPARTMNT	00F3H
74	O-1 1 -O-V	VOID, 110 (00 E CO CE E E CO T T O V)			<u> </u>